ENGLISH

OTHERS

MITSUBISHI

DIGITAL RECORDER
INSTALLATION AND OPERATION MANUAL

MODEL

DX-TL800E

CE

THIS INSTRUCTION MANUAL IS IMPORTANT TO YOU. PLEASE READ IT BEFORE USING YOUR DIGITAL RECORDER.

Features

DX-TL800E Digital Recorder

By utilizing a new image compression/expansion method (WAVELET method), high picture quality recording of more than 450 lines for the horizontal resolution and extended recording time are realized. The DX-TL800E has an internal disk capacity of 80GB and record in 5 user selectable picture grades and 8 recording time modes. The DX-TL800E also has a built in 9 camera multiplexer with motion detection per input. Individual field recording per input in both standard and alarm recording are supported. Normal VCR like functions such as a JOG/SHUTTLE, Menu, timer and rear terminals are featured.

Built-in 9-input multiplexer functions

• Camera switching and split-screen display
Throughout terminals for non-simultaneous connection of 9 cameras. Split-screen modes of Single screen, SPLIT4 or SPLIT9 screens for sequential display.

• Motion detection
This function detects moving objects captured by any of the 9 cameras connected to the unit, and initiates Alarm Recording. The following settings can be made separately as desired : motion detection area, detection area divided by 16 x 12 dots, sensitivity of motion detection, and minimum dot-count for initiating Alarm Recording.

• Operation status display function
The operation status of this unit can be displayed on the top or bottom of the screen.

Various recording functions

By completely separating normal recording settings and alarm recording settings, further detailed settings are possible such as changing the recording intervals only for the camera inputted with alarm signals while maintaining normal recording settings as they are.

• Emergency recording
When there is input of an emergency signal, time recording is given first priority and is forcefully performed in maximum intervals and maximum picture quality using the camera specified for alarm recording or normal recording.

• Title/comment recording function
This unit can record characters inputted from a PC with RS-232C connection as comments along with the video/audio. When setting the display title, the title can also be recorded along with the video. Display is also possible using another unit.

• Camera recording interval setting function
The recording intervals and recording picture quality can be set for each camera.

Timer recording operation

• Timer recording program
4 types of camera patterns, recording intervals, recording picture quality for normal recording and alarm recording can be registered for each operation. Furthermore, individual settings can be made for pre-alarm recording and motion detection function as well.

• Timer holiday specification
Holidays throughout the year can be set in advance.

Versatile functions to support surveillance

• Audio recording function
1-channel PCM audio recording mode included.

• Image-alteration recognition function
Processing of each image recorded using a proprietary image-alteration recognition technology.

• Versatile high-speed search operation
Easy search functions using a proprietary algorithm. Search options include Time Date, Skip, Index and Alarm search. All search functions can specify a specific camera or ALL cameras to be used for the search.

• Excellent expandablility
Standard RS-232C interface for remote PC control, and various control terminals.

• Pre-alarm Recording function
Recording of images before the alarm sensor detects disturbances is also available.

• Front output terminals
Monitor or VCR can be connected on the front of the unit.

• Compact Flash slot
The unit is equipped with a Compact Flash slot on the front for recording to media and writing/reading menu contents.

* Compact Flash™ is a trademark of SanDisk Corporation.

• Simultaneous recording/playback function
Recorded data on the hard disk can be played back while recording.

• Variety of search functions
Pressing the SEARCH button on the front of the unit displays the SEARCH menu for immediate search operation. This function is convenient when repeatedly performing searches.

HEAVY OBJECTS SHOULD NEVER BE PLACED ON THE UNIT (E.G., TV)

NEVER TOUCH OR INSERT ANY OBJECT INSIDE THE UNIT

Touching the inside of the cabinet or inserting foreign objects of any kind not only creates a safety hazard but can also cause extensive damage.

PROTECT THE POWER CORD

Damage to the power cord may cause fire or shock hazard. If the mains cord is damaged, switch off the mains outlet and carefully unplug the cord by holding the mains plug.

UNPLUG THE POWER CORD DURING A LONG ABSENCE

Turn off the power and unplug the power cord during a long absence.

MAINTAIN GOOD VENTILATION

Do not obstruct the many ventilation holes on the unit. For maximum ventilation, leave some space around the unit and place the unit on a hard level surface only, and ensure it is not covered during use. Heavy objects should never be placed on the unit.

WHEN NOT IN USE

When not in use always turn OFF the unit's POWER.

CABINET CARE

Never use petroleum-based cleaners. Clean with a soft cloth moistened with soap and water and wipe dry.
PVC cables or leads should not be left in contact with the cabinet surface for long periods.

INSTALLATION LOCATION

For excellent performance and lasting reliability install in a location that is:-

1. **Well ventilated, out of direct sunlight and away from direct heat.**
2. **A solid vibration-free surface.**
3. **Free from high humidity, excessive dust and away from magnetic fields.**
4. **Please ensure that the ventilation fan located on the unit's back panel is not blocked.**

UNSUITABLE LOCATIONS

Placing the unit in the following places might shorten the product life:

- **Extremely cold places, such as refrigerated warehouses and ice houses**
- **Places where excessive hydrogen sulfide is likely to be generated, such as hot-springs areas**
- **Places or locations with salt air environment.**

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE. THIS APPARATUS MUST BE GROUNDED.

MAINS LEAD CONNECTION

The mains lead on this Unit is fitted with a non-rewireable mains plug, incorporating a 5A fuse. If you need to replace the fuse, use a 5A fuse approved by BSI or ASTA to BS 1362, ensuring you refit the fuse cover. If the mains plug is not suitable for the sockets in your home, and you require to remove the plug, remove the fuse, cut off the plug then dispose of the plug immediately, to avoid a possible electric shock hazard. To refit a new plug, follow these instructions; Green-and-yellow: Earth, Blue: Neutral and Brown: Live. As the colours in the mains lead of this Unit may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows.
•The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol ⏚ or coloured green or green-and-yellow.
•The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
•The wire which is coloured blown must be connected to the terminal which is marked with the letter L or coloured red.

This Unit complies with the requirements of the EC Directive 89/336/EEC, "EMC Directive" , as amended by Directive 93/68/EEC. The requirements for the susceptibility according to EN 55024 and the requirements for interference according to EN 55022 are observed for the operation on residential areas, business, light industrial premises and in small scale enterprises, inside as well as outside of the building. All places of operation are characterised by their connection to the public low voltage power supply system. This unit is manufactured in accordance with EN 60950.

There may be cases when the unit's built-in MOTION DETECTION function does not operate properly due to external condition or video input signal or other factors.

The user will not be indemnified for problems (e.g., recording failure or playback failure) that occur with either the unit or a connected device during operation. It is recommended that backups of important recordings are made regularly as a precaution against possible breakdowns and accidents.

Recordable time and product warranty

Continuous recordable time and the estimated time displayed on the menu screen is the continuous recordable time when operating this unit and is not the product warranty period. Furthermore, it is not the period that guarantees the operation of used parts.

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How to read this manual

• Viewing displays

➲ (Refer to this information when operating)
Reference information concerning operation is described.

ⓘ (Caution required)
Cautionary items concerning operation are described.

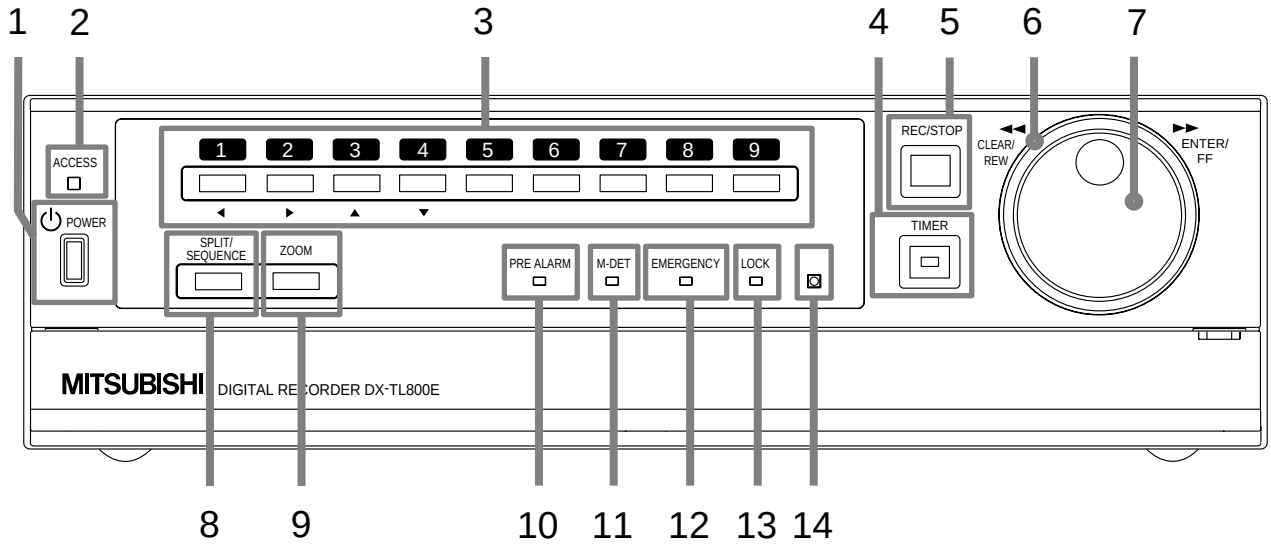
☞ (See reference page)
Reference item and page number are indicated.

INFORMATION (Reference)
Other reference information is described.

• Finding desired information
There is an index on the each right page of this manual. There is also “Contents” at the beginning of this manual. In addition, reference pages are indicated throughout this manual.

• Troubleshooting
Read Troubleshooting (page 85, 86) for possible remedies to the problem.

■ **Front View**



1. POWER button

When pressing this button while the MAIN switch on the rear of this unit is set to ON, the power turns on and the button lights. When the button is pressed again, the unit will be in standby and the light will turn off. When the unit is in operational transition such as booting, the button will flash and other operations are not accepted.

2. ACCESS indicator

Illuminates during access to hard disk drive or Compact Flash Card.

3. Camera number buttons (1 to 9)

Press the button to display the image of the camera connected to this unit on the monitor.

4. TIMER button

When pressing this button, the unit is set to timer recording/standby and the lamp flashes. When pressing this button more than 1 second, timer recording/standby is canceled and the lamp turns off.

5. REC/STOP button

When pressing this button, recording starts and the button lights. When pressing the button for more than 1 second, the recording stops and the light turns off. When pressing this button during alarm recording, recording stops. During timer recording, recoding will not stop even if the button is pressed.

6. SHUTTLE ring

Used to set various menus and search functions, adjusting the playback speed, and rewinding or forwading the image.

7. JOG dial

Used to set various menus and search functions, forwading or rewinding the image during playback (field-by-field).

8. SPLIT/SEQUENCE button

Press the button to display SPLIT4 ,SPLIT9 screen or SEQUENCE screen setting on multiplexer functions.

9. ZOOM button

When pressing this button once during single screen display, the screen is magnified by 100%. In the same way, pressing the button twice magnifies the screen by 200% and pressing the button three times magnifies the screen by 400%. During single screen display, the magnification center point (X) is displayed on the center of the screen. Pressing a camera number button (1, 2, 3, or 4) will move the screen according to the magnification center point as the axis.

10. PRE ALARM indicador

Illuminate during pre-alarm recording and pre-alarm recording stand-by mode.

11. M-DET indicador

Illuminate when the motion detection function is on. The lamp flashes when motion detection is in operation.

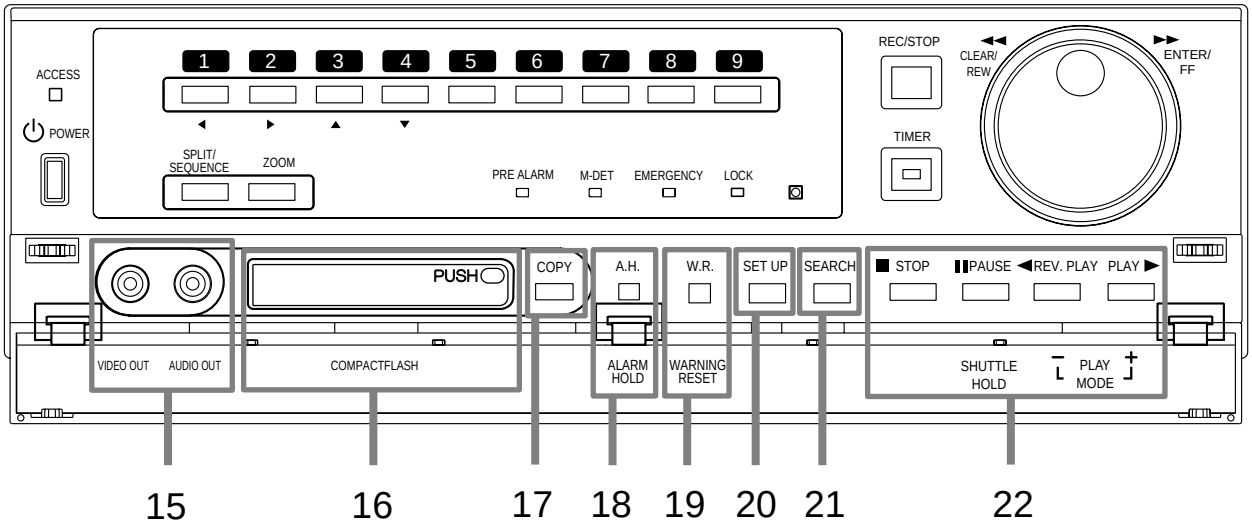
12. EMERGENCY indicador

Flashes during emergency recording and lights when recording is completed.

13. LOCK indicador

Illuminates when simple lock or password lock is on.

■ Front View (Inside of the door)



14. LOCK button

Pressing it with a pointed object (such as a ball-point pen) while the MAIN switch (main power) on the back of the unit is on, will activate the simple lock. Pressing it for more than 5 seconds will activate the PASSWORD SETTING display, which allows you to designate a PASSWORD. The indicator will light while the lock is active.

15. ANALOG OUT connectors

VIDEO OUT connector

Output connector for video signal (RCA pin).

AUDIO OUT connector

Output connector for audio signal (RCA pin).

16. Compact Flash slot

Compact Flash Card for saving/loading data and menus can be used. When not using the slot, attach the Compact Flash cover to prevent dust from entering within the unit.

17. COPY button

Press this button to display <COPY> menu. This button lights when performing copy operation. The copy operation cannot be performed if there is no media in the Compact Flash slot.

18. A.H. (ALARM HOLD) button

When pressing this button, the unit will not accept alarm signals or motion detection for 5 minutes. During this time, the button will flash.

19. W.R. (WARNING RESET) button

This button is used to clear onscreen warning display and clear data.

20. SET UP button

Press this button to display the <MENU> menu.

21. SEARCH button

Press this button to display the <SEARCH SELECTION> menu.

22. OPERATION buttons

STOP button

Press to stop playback.

PAUSE button

When pressing this button during playback, the unit switches to still frame playback and the button lights. When pressing this button again, the unit resumes playback and the button turns off. When pressing this button during shuttle playback, the set playback speed is maintained even when letting go of the SHUTTLE ring.

SHUTTLE HOLD button

This button keeps the paticular playback or reverse playback speed depending on the depree to which the SHUTTLE ring is turnd.

REV. PLAY (REVERSE PLAY) button

When pressing this button, the unit switches to reverse playback and the button lights.

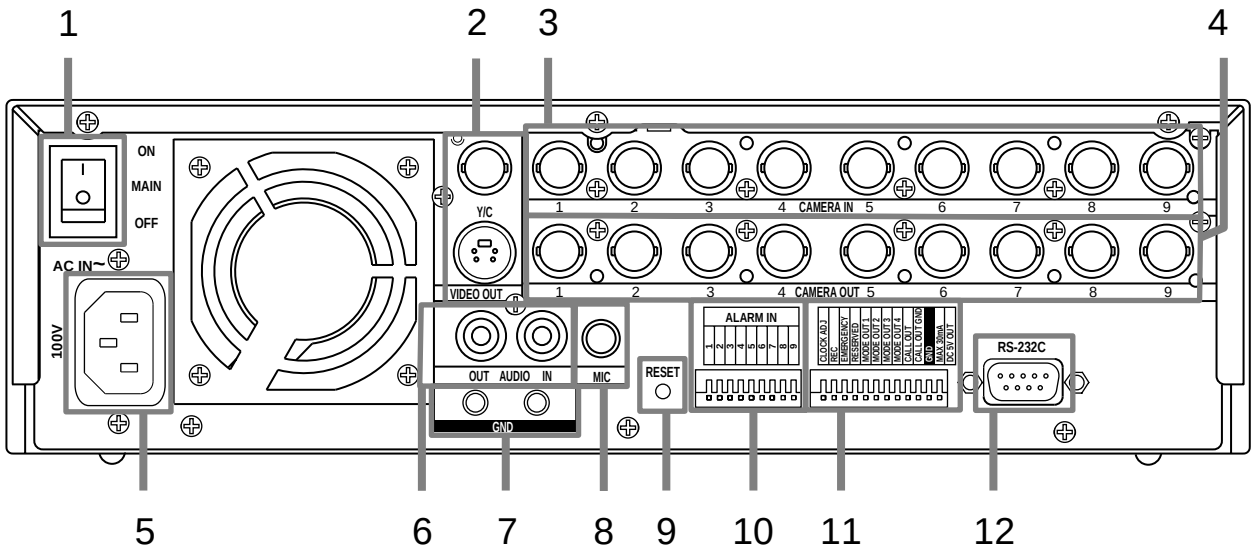
PLAY button

When pressing this button, the unit starts playback and the button lights.

PLAY MODE buttons

These buttons can be used to switch the playback interval while in playback mode and reverse playback mode.

■ Rear View



1. MAIN switch

This is the main power switch. When using this unit, set this switch to ON. Otherwise, the power cannot be turned on/off using the POWER button on the front of the unit.

2. VIDEO connectors

VIDEO OUT connector

Output connector for video signal to monitor (BNC connector).

S(Y/C) OUT connector

These are output terminals for video signals that separate brightness signals and color signals for higher picture quality. Simultaneous output along with VIDEO OUT is also possible.

3. CAMERA IN connectors

Input connector for signal of camera (BNC connector).

4. CAMERA OUT connectors

Camera video output terminals for use of BNC connectors. Output connector for signal of camera which is provided via CAMERA IN (BNC connector).

5. AC power socket

This socket connects to the power cord. Earth terminal is for safety. Use the 100 ~ 240V plug with earth for the power of this unit.

ⓘ If there is no ground terminal on the wall outlet, contact your dealer of purchase for grounding work (with charge). When there is no ground terminal in a wall socket, please request ground construction from a store. (It is a charge.) Do not connect the earth terminal of a plug to gas pipe, water pipe, lightning rod and so on.

6. AUDIO connectors

AUDIO IN connector

Input connector for audio signal (RCA pin).

AUDIO OUT connector

Output connector for audio signal (RCA pin).

7. GND terminals

Ground terminal for the alarm signal.

8. MIC jack

Input connector for microphone (600 ohm impedance).

9. RESET button

Pressing this button resets the unit and the power turns off. If this case, video data, menu settings and the current time are kept.

10. ALARM IN terminals

Input terminal for alarm signal.

11. I/O terminals

CLOCK ADJ terminal

Input terminal to set the present time. Time display is adjusted to the nearest hour (00 minutes 00 seconds) when this terminal receives the CLOCK ADJ signal.

INFORMATION

The on-screen clock can be reset to the nearest hour, by applying a signal to the CLOCK ADJ terminal. For example, if the current time is 11:29:59, it will be reset to 11:00:00, and if the current time is 11:30:00, it will be reset to 12:00:00.

REC terminal
Input terminal to start recording. Not available during timer recording.

EMERGENCY terminal
Input terminal for starting emergency recording.

RESERVED terminal
Not available.

MODE OUT 1 ~ MODE OUT 4 terminal
Output terminal to indicate the unit's current mode. Select the unit's condition by MODE OUT 1 ~ MODE OUT 4 setting in the <REAR TERMINAL SETTINGS> menu.

CALL OUT terminal / CALL OUT GND terminal
This is the ISOLATION output terminal. Output terminal and its GND terminal to indicate information such as "HDD FULL". Information that can be transmitted externally consists of CALL OUT settings made on the REAR TERMINAL SETTINGS menu screen as well as fixed output settings.

DC 5V OUT terminal
Will only output when both the MAIN switch and POWER button are ON. The maximum electric current is 30mA.

12. RS-232C socket
This terminal is used to connect to host device with RS-232C terminal. This unit can be controlled by the other device through this terminal.

■ Inserting/Ejecting Compact Flash Card

ⓘ Before use, read the cautionary notes described in the manual included with Compact Flash Card.

<Inserting Card>

1. Remove the Compact Flash cover attached to the unit.

2. With the label facing up, securely insert the Card in the direction of the arrow until the EJECT button pops out.

ⓘ Do not eject the Card when copying/restoring, copying/loading menus, or immediately after inserting the card. The Card or the contained data may become damaged.

ⓘ Securely insert the Compact Flash Card. Otherwise, the unit may not work properly.

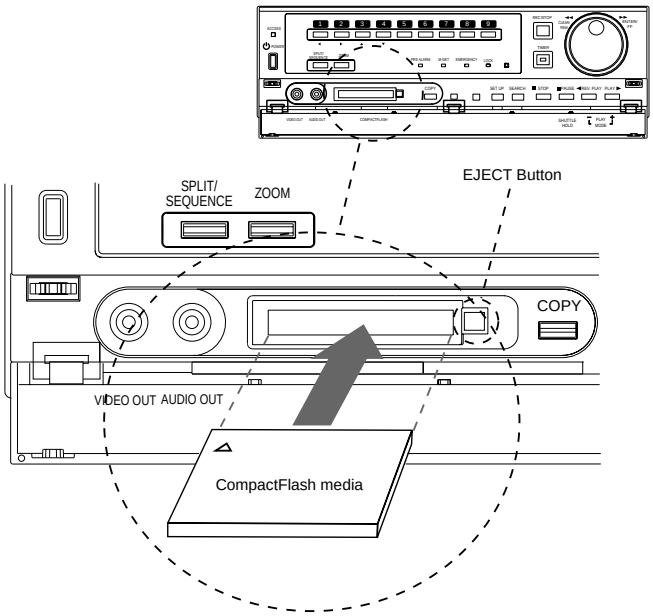
ⓘ Use a Compact Flash Card specified by Mitsubishi. Otherwise, reading/writing of data may not work properly. For details, contact your dealer of purchase.

ⓘ When using a new Card, be sure to execute CFC DATA CLEAR in the <INFORMATION/SERVICE> screen.

<Ejecting Card>

1. Press the EJECT button and eject the Card.

2. Attach the Compact Flash cover.

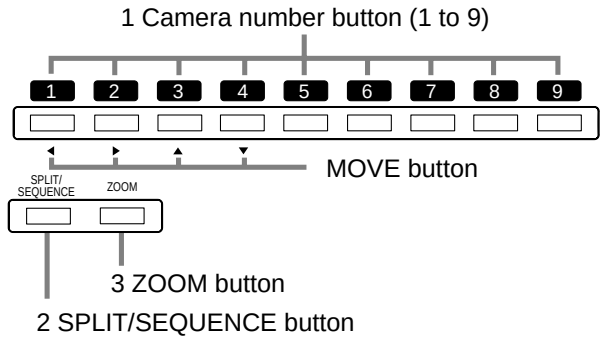


■ Multiplexer functions

Buttons on the front of the unit can be used to perform some of the multiplexer functions.

ⓘ Multiplexer functions are not available when the PLAY button is on.

♦ Multiplexer buttons



1. Camera number buttons (1 ~ 9)
Video images of cameras connected to CAMERA IN terminals 1 ~ 9 on the rear of the unit are displayed.

➲ By pressing a camera number button, video can be displayed even if the camera is not set for recording.

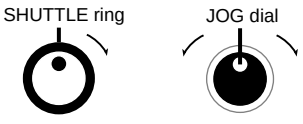
2. SPLIT/SEQUENCE button
The screen switches in order of SPLIT9 set in the <MPX DISPLAY> screen, 3 types of SPLIT4 SEQUENTIAL (a, b, c), SPLIT4 SEQUENTIAL, and SINGLE SEQUENTIAL. (SEQUENTIAL display is skipped during playback.)

3. ZOOM button
When this button is pressed during single screen display, MAGNIFICATION 100% screen appears and the magnification center point (X) is displayed at the center. Pressing the button again will switch the magnification to 200% and then 400%. By pressing the MOVE buttons, the magnified screen can be moved vertically/horizontally with the center point as the axis (☞ see "ZOOM button operations," page 26).

<u>When the ZOOM button is pressed, camera number buttons 1 ~ 4 switches to the MOVE buttons.</u>

■ Menu settings

The operational conditions of this unit can be set in the menu screens according to use. Although the setting method will differ slightly depending on the menu screen, the basic setting method of using the JOG dial and SHUTTLE ring will be used for setting the display mode as an example.



Example : Set DISPLAY MODE to "3" (default : "1").

1. Set the MAIN switch on the rear of the unit to ON. Press the POWER button on the front after the ACCESS indicator turns off.

• "SETTING UP..." appears on the screen and the unit is booted.
• POWER button operation will not be accepted while the ACCESS indicator is flashing. Press the POWER button after the indicator turns off.

2. After boot-up, press a SET UP button inside the door on the front of the unit.

• The <SETTINGS> screen appears.

```
<SETTINGS>
»TIME DATE/DISPLAY SETTINGS
 MPX DISPLAY SETTINGS
 MOTION DETECTION SETTINGS
 RECORD SETTINGS
 TIMER RPOGRAM SETTINGS
 INITIAL SET UP/INFORMATION

 QUICK SETTINGS


 MEMO:
```

➲ When a SET UP button is pressed and the menu screen appears, the background darkens and the displayed characters become easier to see.

3. Check to see that the cursor (>>) is positioned at "TIME DATE DISPLAY", and then turn the SHUTTLE ring clockwise.

• The <TIME DATA/DISPLAY SETTINGS> screen appears (☞ see page 24).

```
<TIME DATE/DISPLAY SETTINGS>
»TIME DATE ADJUST
 DISPLAY MODE                1
 CLOCK LOCATION SETTING
 CAMERA DISPLAY          NUMBER
 CAMERA TITLE/MEMO SETTING
 DUPLEX MODE DISPLAY     BOTTOM

<MODE1>

01-01-2002 00:00:00
```

4. Turn the JOG dial to move the cursor to "DISPLAY MODE" and turn the SHUTTLE ring clockwise.

• The background of the "DISPLAY MODE" setting turns red and flashes.

➲ When turning the JOG dial clockwise, the cursor (>>) moves down. When turning counterclockwise, the cursor (>>) moves up.

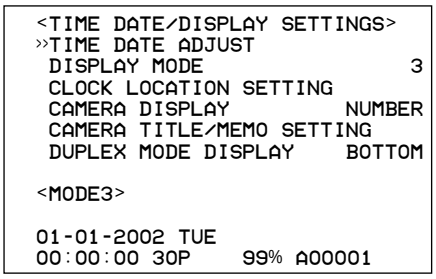
5. Turn the JOG dial to display "3".

• The display mode sample on the bottom of the screen changes to <MODE3>.

6. Turn the SHUTTLE ring clockwise.

• The setting is confirmed and flashing stops.
• To continue with other settings, repeat steps 4 and 5.

➲ When turning the SHUTTLE ring counterclockwise while the setting is flashing, the setting will return to the previous setting. To exit the screen, turn the SHUTTLE ring counterclockwise.



♦ To return to the normal screen from a menu screen

The procedure to return to the normal screen after completing menu screen settings using the JOG dial/SHUTTLE ring is explained.

1. Check to see that the setting item is no longer flashing and the item has been changed to the desired setting.

• The setting has not been confirmed if the item is flashing. Refer to the above setting procedure to confirm the setting.
• To continue with other settings or to check the setting item, <u>turn the SHUTTLE ring counterclockwise once to return to the previous screen.</u>

➲ This operation is not accepted when the setting item is flashing.

2-1. (To return to the normal screen by moving up menu screens one at a time • • •)

• Turn the SHUTTLE ring counterclockwise for the amount of menu screens opened. The previous menu screen is displayed every time the SHUTTLE ring is turned counterclockwise.

2-2. (To directly return to the normal screen • • •)

• Press the SET UP button to clear the menu screen and return to the normal screen.

ⓘ The menu screen will not be cleared even when pressing the SET UP button when the setting item is flashing.

♦ DAYLIGHT SAVING

The clock is put forward one hour by setting the menu. The default setting for this function is “OUT”. On the DAYLIGHT SAVING in <TIME DATE ADJUST> menu, turn the JOG dial to flash “IN” (the daylight saving function is activating) and turn the SHUTTLE ring clockwise to enter the selection.

♦ TIME DATE ADJUST

ⓘ Before starting recording, it is necessary to set accurately the current date and time.

Example : Set the date/time to 28/10/2002 6:30pm (18:30)(default : “01/01/2002 00:00:00”).

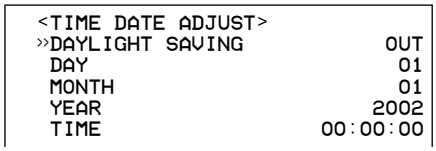
1. Press the SET UP button to display the <SETTINGS> screen.

2. Check to see that the cursor (>>) is positioned at “TIME DATE/DISPLAY SETTINGS”, and then turn the SHUTTLE ring clockwise.

• The <TIME DATE/DISPLAY SETTINGS> screen appears.

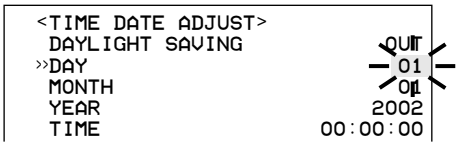
3. Turn the JOG dial to move the cursor to “TIME DATE ADJUST” and turn the SHUTTLE ring clockwise.

• The <TIME DATE ADJUST> screen appears.



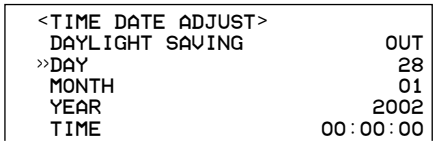
4. Check to see that the cursor (>>) is positioned at “DAY”, and then turn the SHUTTLE ring clockwise.

• The background of “DAY” changes to red and flashes.



5. Turn the JOG dial to display “28” and turn the SHUTTLE ring clockwise.

• The setting is confirmed and flashing stops.



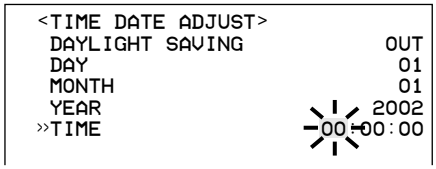
6. Turn the JOG dial clockwise to move the cursor (>>) to “MONTH”.

➲ When turning the JOG dial clockwise, the cursor (>>) moves down. When turning counterclockwise, the cursor (>>) moves up.

7. Repeat steps 4 ~ 6 to set “MONTH” and “YEAR”.

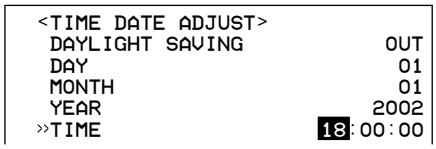
8. Turn the JOG dial to move the cursor (>>) to “TIME” and turn the SHUTTLE ring clockwise twice.

• The “TIME” display reverses in color when the SHUTTLE ring is turned the first time. When the ring is turned for the second time, the display turns red and flashes.



9. Turn the JOG dial to display “18” and turn the SHUTTLE ring clockwise.

• The setting is confirmed and flashing stops.

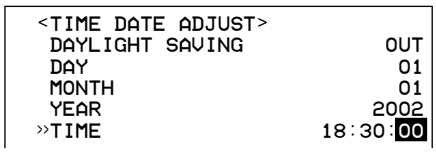


➲ The time is indicated using the 24-hour system.

10. Repeat steps 8 and 9 to set “MINUTE” and “SECOND”.

11. Turn the SHUTTLE ring clockwise.

• The setting is confirmed and flashing stops.



12. Turn the SHUTTLE ring counterclockwise or press the SET UP button.

♦ Present time display

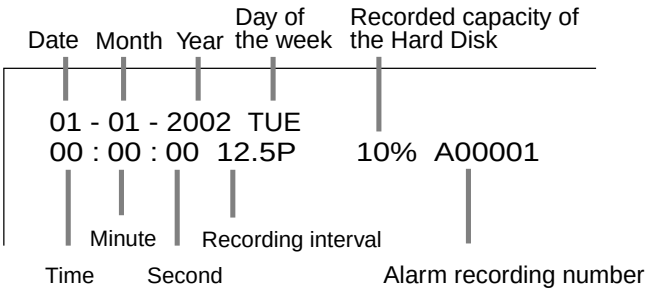
When turning on the unit power, the time/date display shown below appears (in the case of DISPLAY MODE 3).

➲ For setting other display modes, "DISPLAY MODES", ☞ see page 24.

➲ During recording, the used HDD space is displayed. When recording is stopped, the display is cleared (with the exception of when pausing recording). The HDD usage display appears again after a few moments when recording is started once more.

INFORMATION

This unit uses 4 digits to display the year. The allowed display range is 99 years between 1/1/2002 ~ 12/31/2100. The unit is also equipped with a function to automatically calculate leap years. The date returns to the year 2002 after 12/31/2100.



♦ Recorded capacity display function

This unit displays the used space of the specified recording device (HDD) on the screen when "REMAIN HDD" of the <REAR TERMINAL SETTINGS> screen is set to "HDD". The "%" indicates the ratio detected as HDD against the total HDD capacity. The following settings are required to enable this function.

1) Select the device and set the remaining capacity using "REMAIN HDD" of the <REAR TERMINAL SETTINGS> screen (☞ see page 40).

2) Select "3" for "DISPLAY MODE" in the <TIME DATE/DISPLAY SETTINGS> screen (☞ see page 24).

■ Basic manual recording

Normal recording using manual operation is explained here. Before starting recording, recording settings must be checked. After checking the settings of "HDD REPEAT REC" in the <HDD SETTINGS> screen (☞ see page 37), the REC mode settings are made.

ⓘ Settings here are for normal recording only. For timer recording, settings must be made on the <TIMER PROGRAM SETTINGS> screen (☞ see page 34).

♦ Setting the recording interval and recording picture quality for normal recording

To perform normal recording, "PPS" and "GRADE" must be set for each camera.

Setting of "PPS" (default : "12.5P").
"25P", "12.5P", "8.33P", "6.25P", "5P", "4.17P", "3.13P", "2.5P", "1P", "0.5P", "0.25P", "0.13P", "- - - - -"
"- - - - -" : Recording cannot be performed with camera set to this item.

ⓘ Available recording intervals will vary according to the number of cameras operating or ALARM RECORDING settings (☞ see page 32). Interval displays will be according to the chart below.

Setting of "GRADE" (default : "STD").
"SUPER", "HIGH", "STD"(STANDARD), "BASIC", "LONG"

Example : Set "PPS" of camera number " ① " to "0.56P" and "GRADE" to "HIGH" for normal recording.

1. Press the SET UP button to display the <SETTINGS> screen.

2. Turn the JOG dial to move the cursor to "DISPLAY MODE" and turn the SHUTTLE ring clockwise.
• The <RECORD SETTINGS> screen appears.

Relation between a number of operation cameras and a "PPS"

PPS \ Number of operation cameras	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9
LONG ↑	25P	12.5P	8.33P	6.25P	5P	4.17P	3.57P	3.13P	2.78P
	12.5P	6.25P	4.17P	3.13P	2.5P	2.08P	1.79P	1.56P	1.39P
	8.33P	4.17P	2.78P	2.08P	1.67P	1.39P	1.19P	1.04P	0.93P
	6.25P	3.13P	2.08P	1.56P	1.25P	1.04P	0.89P	0.78P	0.69P
	5P	2.5P	1.67P	1.25P	1P	0.83P	0.71P	0.63P	0.56P
	4.17P	2.08P	1.39P	1.04P	0.83P	0.69P	0.6P	0.52P	0.46P
	3.13P	1.56P	1.04P	0.78P	0.63P	0.52P	0.45P	0.39P	0.35P
	2.5P	1.25P	0.83P	0.63P	0.5P	0.42P	0.36P	0.31P	0.28P
	1P	0.5P	0.33P	0.25P	0.2P	0.17P	0.14P	0.13P	0.11P
↓ SUPER	0.5P	0.25P	0.17P	0.13P	0.1P	0.08P	0.07P	0.06P	0.06P
	0.25P	0.12P	0.08P	0.06P	0.05P	0.04P	0.04P	0.03P	0.03P
	0.13P	0.06P	0.04P	0.03P	0.03P	0.02P	0.02P	0.02P	0.01P

```
<RECORD SETTINGS>
»RECORD SETTING
 ALARM REC DURATION          5S
 PRE ALARM REC              OFF
```

3. Check to see that the cursor is positioned at "RECORD SETTING", and then turn the SHUTTLE ring clockwise.

• The <RECORD SETTING> screen appears.

Camera selection during alarm recording

```
<RECORD SETTING>   ALARM PLUS
NO.PPS     GRADE A-PPS   A-GRADE
»① 1.39P   STD   1.39P   STD
 ② 1.39P   STD   1.39P   STD
 ③ 1.39P   STD   1.39P   STD
 ④ 1.39P   STD   1.39P   STD
 ⑤ 1.39P   STD   1.39P   STD
 ⑥ 1.39P   STD   1.39P   STD
 ⑦ 1.39P   STD   1.39P   STD
 ⑧ 1.39P   STD   1.39P   STD
 ⑨ 1.39P   STD   1.39P   STD
<ESTD TIME>              □□□H□□M
```

CAUTION : For <ESTD TIME>,

☞ see "Continuous recording time table" , page 82.

4. Check to see that the cursor is positioned at "① ", and then turn the SHUTTLE ring clockwise.

• The "PPS" setting reverses in color.

```
<RECORD SETTING>   ALARM PLUS
NO.PPS     GRADE A-PPS   A-GRADE
 ① 1.39P   STD   1.39P   STD
 ② 1.39P   STD   1.39P   STD
 ③ 1.39P   STD   1.39P   STD
 ④ 1.39P   STD   1.39P   STD
 ⑤ 1.39P   STD   1.39P   STD
 ⑥ 1.39P   STD   1.39P   STD
 ⑦ 1.39P   STD   1.39P   STD
 ⑧ 1.39P   STD   1.39P   STD
 ⑨ 1.39P   STD   1.39P   STD
<ESTD TIME>              □□□H□□M
```

5. Turn the SHUTTLE ring clockwise again.

• The background of the "PPS" setting turns red and flashes.

```
<RECORD SETTING>   ALARM PLUS
NO.PPS     GRADE A-PPS   A-GRADE
 ① 1.39P   STD   1.39P   STD
 ② 1.39P   STD   1.39P   STD
 ③ 1.39P   STD   1.39P   STD
 ④ 1.39P   STD   1.39P   STD
 ⑤ 1.39P   STD   1.39P   STD
 ⑥ 1.39P   STD   1.39P   STD
 ⑦ 1.39P   STD   1.39P   STD
 ⑧ 1.39P   STD   1.39P   STD
 ⑨ 1.39P   STD   1.39P   STD
<ESTD TIME>              □□□H□□M
```

ⓘ The menu screen will not be cleared even when pressing the SET UP button when the setting item is flashing.

6. Turn the JOG dial to select "0.56P" and turn the SHUTTLE ring clockwise.

• Setting is confirmed and flashing stops.

```
<RECORD SETTING>   ALARM PLUS
NO.PPS     GRADE A-PPS   A-GRADE
 ① 0.56P   STD   1.39P   STD
 ② 1.39P   STD   1.39P   STD
 ③ 1.39P   STD   1.39P   STD
 ④ 1.39P   STD   1.39P   STD
 ⑤ 1.39P   STD   1.39P   STD
 ⑥ 1.39P   STD   1.39P   STD
 ⑦ 1.39P   STD   1.39P   STD
 ⑧ 1.39P   STD   1.39P   STD
 ⑨ 1.39P   STD   1.39P   STD
<ESTD TIME>              □□□H□□M
```

7. Turn the JOG dial clockwise to reverse display "GRADE" and turn the SHUTTLE ring clockwise.

• The background of the "GRADE" setting turns red and flashes.

```
<RECORD SETTING>   ALARM PLUS
NO.PPS     GRADE A-PPS   A-GRADE
 ① 0.56P   STD   1.39P   STD
 ② 1.39P   STD   1.39P   STD
 ③ 1.39P   STD   1.39P   STD
 ④ 1.39P   STD   1.39P   STD
 ⑤ 1.39P   STD   1.39P   STD
 ⑥ 1.39P   STD   1.39P   STD
 ⑦ 1.39P   STD   1.39P   STD
 ⑧ 1.39P   STD   1.39P   STD
 ⑨ 1.39P   STD   1.39P   STD
<ESTD TIME>              □□□H□□M
```

ⓘ When the setting item is flashing, the menu screen cannot be cleared even when pressing the SET UP button.

8. Turn the JOG dial to select "HIGH" and turn the SHUTTLE ring clockwise.

• The setting is confirmed and flashing stops.

```
<RECORD SETTING>   ALARM PLUS
NO.PPS     GRADE A-PPS   A-GRADE
 ① 0.56P   HIGH  1.39P   STD
 ② 1.39P   STD   1.39P   STD
 ③ 1.39P   STD   1.39P   STD
 ④ 1.39P   STD   1.39P   STD
 ⑤ 1.39P   STD   1.39P   STD
 ⑥ 1.39P   STD   1.39P   STD
 ⑦ 1.39P   STD   1.39P   STD
 ⑧ 1.39P   STD   1.39P   STD
 ⑨ 1.39P   STD   1.39P   STD
<ESTD TIME>              □□□H□□M
```

About <ESTD TIME>

• The remaining recordable time is displayed as <ESTD TIME> depending on the "PPS" and "GRADE" settings. (The time will not change when changing the alarm recording settings.) For details concerning the estimated recordable time, ☞ see page 82.

9. When completed with setting, turn the SHUTTLE ring counterclockwise.

• The cursor moves to the camera number on the left.

• When continuing with other camera number settings, turn the JOG dial to move the cursor to the desired camera number and repeat steps 4 ~ 8 to perform settings.

```
<RECORD SETTING>   ALARM PLUS
NO.PPS     GRADE A-PPS   A-GRADE
»① 0.56P   HIGH  1.39P   STD
 ② 1.39P   STD   1.39P   STD
 ③ 1.39P   STD   1.39P   STD
 ④ 1.39P   STD   1.39P   STD
 ⑤ 1.39P   STD   1.39P   STD
 ⑥ 1.39P   STD   1.39P   STD
 ⑦ 1.39P   STD   1.39P   STD
 ⑧ 1.39P   STD   1.39P   STD
 ⑨ 1.39P   STD   1.39P   STD
<ESTD TIME>              □□□H□□M
```

10. Turn the SHUTTLE ring counterclockwise or press the SET UP button to return to the normal screen.

11. Press the REC/STOP button.

• REC/STOP button light turns on and recording starts.

12. To stop recording, press the REC/STOP button for more than 1 second.

• Recording stops and the REC/STOP button light turns off.

REC/STOP

■ Basic playback

This unit allows recorded video to be played back using various methods. The basic playback described here is the most common method for playback.

1. Press the PLAY button within the door on the front of the unit.

• Recorded contents of the HDD are played back.

• After turning the power on, the oldest recorded video is played back first. Otherwise, playback resumes at the position of the previous playback.

■ STOP ❚❚PAUSE ◀REV. PLAY PLAY ▶

ⓘ When the “HDD REPEAT PLAY” setting in the “HDD SETTINGS” is set to “OFF”, playback is stopped when reaching the end of the physical HDD or recorded section. When the “HDD REPEAT PLAY” setting is set to “ON”, recorded video data is played back repeatedly (☞ see “HDD REPEAT PLAY”, page 37).

1-1. Changing the playback device.

• The default setting of the playback device is HDD.

• When changing the playback device to Compact Flash Card, press the SEARCH button twice (☞ see page 52) to display the <SEARCH SELECTION> screen and select “CFC” (Compact Flash Card) in “PLAYBACK DEVICE”.

2. To pause playback, press the PAUSE button.

• To resume playback, press the PAUSE button again or press the PLAY button.

3. To stop playback, press the STOP button.

• During HDD playback/pause, playback will start the next time from the paused position.

• During CFC playback/pause, playback will start the next time from the oldest recorded video on the media.

■ Basic search

This unit displays a menu of most used search functions simply by pressing the SEARCH button.

♦ TIME DATE SEARCH

On this unit, various search functions are available for searching the beginning of video clips. In this section, the most common search method referred to as time/date search is explained. With this method, searching is possible by date, hour, minute and specified camera number.

Example : Search a scene recorded on the HDD with time/date stamp of 03/03/2002 9:25:40pm (21:25:40) using camera number “ ③ ”.

1. Press the SEARCH button to display the <TIME DATE SEARCH> screen.

• The default setting of the search menu displayed when pressing the SEARCH button is “TIME DATE SEARCH”.

```
<TIME DATA SEARCH>

»01-01-2002  00:00:00

 EXECUTE(FORWARD)


 START     02-02-2002  00:00:00
 END       04-04-2002  12:30:15

 PUSH SEARCH KEY FOR
 SEARCH SELECTION
```

2. Check to see that the cursor is next to the search date and turn the SHUTTLE ring clockwise twice.

• The display reverses in color when the SHUTTLE ring is turned the first time. When the ring is turned for the second time, the display turns red and flashes.

3. Turn the JOG dial to display “03” for “DATE” and turn the SHUTTLE ring clockwise.

• Setting is confirmed and flashing stops.

4. Turn the JOG dial to reverse display “MONTH” and turn the SHUTTLE ring clockwise.

• The background of the setting item changes to red and flashes.

5.Turn the JOG dial to display “03” for “MONTH” and turn the SHUTTLE ring clockwise.

• Setting is confirmed and flashing stops.

6. Repeat steps 4 and 5 to set “YEAR”, “HOUR”, “MINUTE” and “SECOND”.

```
<TIME DATA SEARCH>

»03-03-2002  21:25:40

 EXECUTE(FORWARD)


 START     02-02-2002  00:00:00
 END       04-04-2002  12:30:15

 PUSH SEARCH KEY FOR
 SEARCH SELECTION
```

➲ To exit the <SEARCH> screen without searching, turn the SHUTTLE ring counterclockwise or press the SEARCH button twice.

➲ For details concerning <SEARCH SELECTION> for selecting search functions, ☞ see page 52.

7. Press the SEARCH button to display the <SEARCH SELECTION> screen.

8. Check to see that the cursor is positioned at “SELECTION CAMERA NO. ”, and then turn the SHUTTLE ring clockwise.

• The background of the setting item changes to red and flashes.

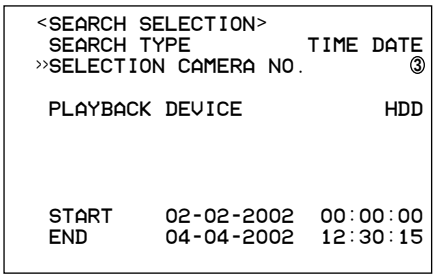
9. Turn the JOG dial to select “ ③” and turn the SHUTTLE ring clockwise.

• Setting is confirmed and flashing stops.

• Setting (default : “ALL”)

“ALL”, “ ① ”, “ ② ”, “ ③ ”, “ ④ ”, “ ⑤ ”, “ ⑥ ”, “ ⑦ ”, “ ⑧ ”, “ ⑨ ”

“ALL” : Search is conducted for all camera number “ ① ” ~ “ ⑨ ”.



10-1. (To change the playback device • • •)
Turn the JOG dial to select "PLAYBACK DEVICE" and turn the SHUTTLE ring clockwise.

• The background of the setting item changes to red and flashes. Turn the JOG dial to display the desired playback device and confirm.
• Setting (default : "HDD")
"HDD" : Select when playing back HDD contents.
"CFC" : Select when playing back Compact Flash Card contents.

10-2. (To change the search type • • •)
Turn the JOG dial to select "SEARCH TYPE" and turn the SHUTTLE ring clockwise.

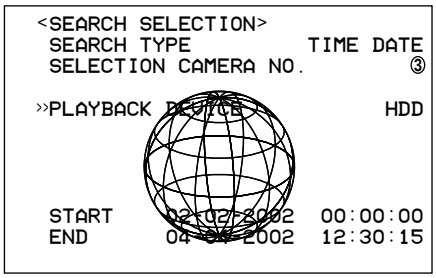
• The background of the setting item changes to red and flashes. Turn the JOG dial to display the desired search menu and confirm.
• Setting (default : "TIME DATE")
"TIME DATE", "INDEX", "ALARM INDEX", "ALARM SKIP", "ALALRM LIST".

11. When completed with setting, turn the SHUTTLE ring counterclockwise.

• The display returns to the <TIME DATE SEARCH> screen and the cursor appears on the left of the search date.

12. Turn the JOG dial to select "EXECUTE(FORWARD)" and turn the SHUTTLE ring clockwise.

• The TIME DATE SEARCH begins the video of the set date/ time (or the video closest to the search) will appear in still frame.
• The search result will appear using SPLIT9 screen when "ALL" is selected in "SELECTION CAMERA NO." of the "SERACH SELECTION" screen. If camera number has been selected individually, the still frame will be displayed in a single screen.



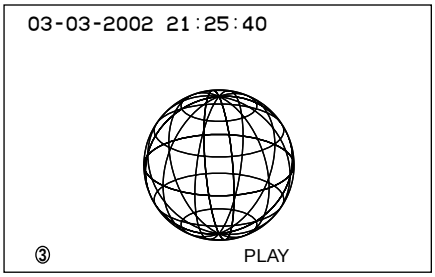
➲ When there is no recording of the set time, the video of the close time and date for the set camera number will be displayed in still frame.

➲ Depending on the recording condition, TIME DATE SEARCH may not operate correctly.

ⓘ To display a single screen by selecting a camera number from the SPLIT9 screen of the search result when "ALL" is selected in the "SELECTION CAMERA NO." setting, press the SEARCH button to clear the <SEARCH> menu and press the desired camera number button. The desired video is displayed in single screen.

13. To playback the searched image.

• Press either the PLAY button or the PAUSE button.



➲ For playback, ☞ see "Various playback functions", pages 50,51.

14. To stop playback/still frame playback, press the STOP button.

• The display returns to the normal screen.

15. Press the SEARCH button to clear the <SEARCH SELECTION> screen.

Flowchart

■ Flowchart for connection and settings

Installation example :

Connect the terminals on the back ; and set initial settings. Next, make an alarm recording using the timer function, and using alarm list search, retrieve, playback, and copy the data.

Connection the terminals on the back

- **Connection the terminal on the back.**
  - ☞ **See "■ Connnecting to CCTV camera, monitor, sensor, the electric power supply", page 18.**
- **Connection the alarm recording.**
  - ☞ **See "■ Alarm Recording Connection", page 18 and "■ Rear View" , page 8, 9.**

▼

The unit is booted.

▼

Changing the initial menu settings

- **Setting the present time and screen display.**
  - ☞ **See "<TIME DATE/DISPLAY SETTINGS>", pages 24, 25.**
  - **Setting the present time.**
    - ☞ **See "♦ TIME DATE ADJUST", pages 11,12.**
  - **Setting the display mode.**
    - ☞ **See "■ DISPLAY MODE", page 24.**
- **Setting the audio recording.**
  - ☞ **See "■ AUDIO RECORDING", page 38 and "■ Continuous recording time table", page 82.**

▼

Setting the HDD (hard disk drive) mode

- **Setting the repeat recording.**
  - ☞ **See "■ HDD REPEAT REC", page 37.**
- **Setting the remain HDD capacity.**
  - ☞ **See "■ REMAIN HDD", page 40.**
- **Setting the call out.**
  - ☞ **See "• HDD REMAIN", page 40 and "• HDD FULL", page 41.**
- **Setting the buzzer.**
  - ☞ **See "■ BUZZER", pages 39, 40.**

▼

Changing the multiplexer function

- **Changing the split4 screen and split9 screen setting.**
  - ☞ **See "■ SPLIT4 SCREEN SETTING", page 28 and "■ SPLIT9 SCREEN SETTING", page 28.**
- **Changing the sequence setting.**
  - ☞ **See "■ SEQUENCE SETTING", pages 28, 29.**

▼

Setting other various functuon

- **Changing the screen display mode.**
  - ☞ **See "■ CLOCK LOACTION SETTING", page 24 and "■ DUPLEX MODE DISPLAY", page 25.**
- **Setting the camera title/memo.**
  - ☞ **See "■ CAMERA TITLE/MEMO SETTING", pages 24, 25 and "■ CAMERA DISPLAY", page 24.**
- **Setting the unit status outputted.**
  - ☞ **See "♦ MODE OUT 1 ~ MODE OUT 4", page 39.**

▼

Setting the motion detection

- **Selecting the camera number.**
  - ☞ **See "■ SELECTION CAMERA NUMBER", page 29.**
- **Settinig the active/inactive of detection function.**
  - ☞ **See "■ MOTION DETECTION", pages 29, 30.**
- **Setting the detection area.**
  - ☞ **See "■ DETECTION MASK SETTING", page 30.**
- **Setting the sensitivity.**
  - ☞ **See "■ SENSITIVITY", page 30.**
- **Setting the minimum number of dots for starting the motion detection operation.**
  - ☞ **See "■ MOTION THRESHOLD", pages 30, 31.**

▼

Settings concerning timer recording

- Selecting the normal & alarm recording or pre-alarm recording.
  - ☞ See "■ Recording mode settings A ~ D for normal recording/alarm recording", page 35.
  - Setting the recording mode.
    - Selecting the camera sellection during the alarm recording.
      - ☞ See "■ Recording mode settings for normal recording and alarm recording", page 32.
    - Setting the interval/picture grade for normal recording.
      - ☞ See "■ Setting the recording interval and recording picture quality for normal recording", pages 12-14.
    - Setting the interval/picture grade for alarm recording.
      - ☞ See "■ Setting the recording interval and recording picture quality for normal recording", pages 12-14.
  - Setting the duration of alarm recording.
    - ☞ See "■ ALARM REC DURATION", page 35.
  - Setting thr duration of pre-alarm recording.
    - ☞ See "■ PRE ALARM REC", page 36 and "■ Pre-alarm recording time table", pages 83, 84.
- Setting concerning timer program mode.
  - ☞ See "<TIMER PRODRAM SETINGS>", pages 34, 35.
  - Setting the holiday.
    - ☞ See "■ HOLIDAY SETTING", page 35.
  - Selection the timer program setting.
    - ☞ See "♦ Structure of the <TIMER PROGRAM> screen", pages 34, 35.
  - Setting the timer program.
    - ☞ See "♦ Structure of the <TIMER PROGRAM> screen", pages 34, 35.
    - Selecting the day.
    - Selecting the start time.
    - Selecting the end time.
    - Selecting the recording mode.
    - Selecting the motion detection mode.

▼

Timer recording execute/complete

☞ See "■ Warnings and their appropriate countermeasures ", page 87.

▼

Searching the recorded data

- Setting the device of searching.
  - ☞ See "♦ PALYBACK DEVICE", page 52.
- Selecting the camera number of searching.
  - ☞ See "♦ SELECTION CAMERA NO. ", page 52.
- Selecting the search mode.
  - ☞ See "♦ SEARCH TYPE", page 52.
- Setting the alarm list search.
  - ☞ See "ALARM LIST SEARCH", pages 54, 55.
- Setting the timer of list search.
  - ☞ See "♦ DATE/TIME", pages 50, 51.

▼

Complete the search/display the search result

▼

Playback the search result

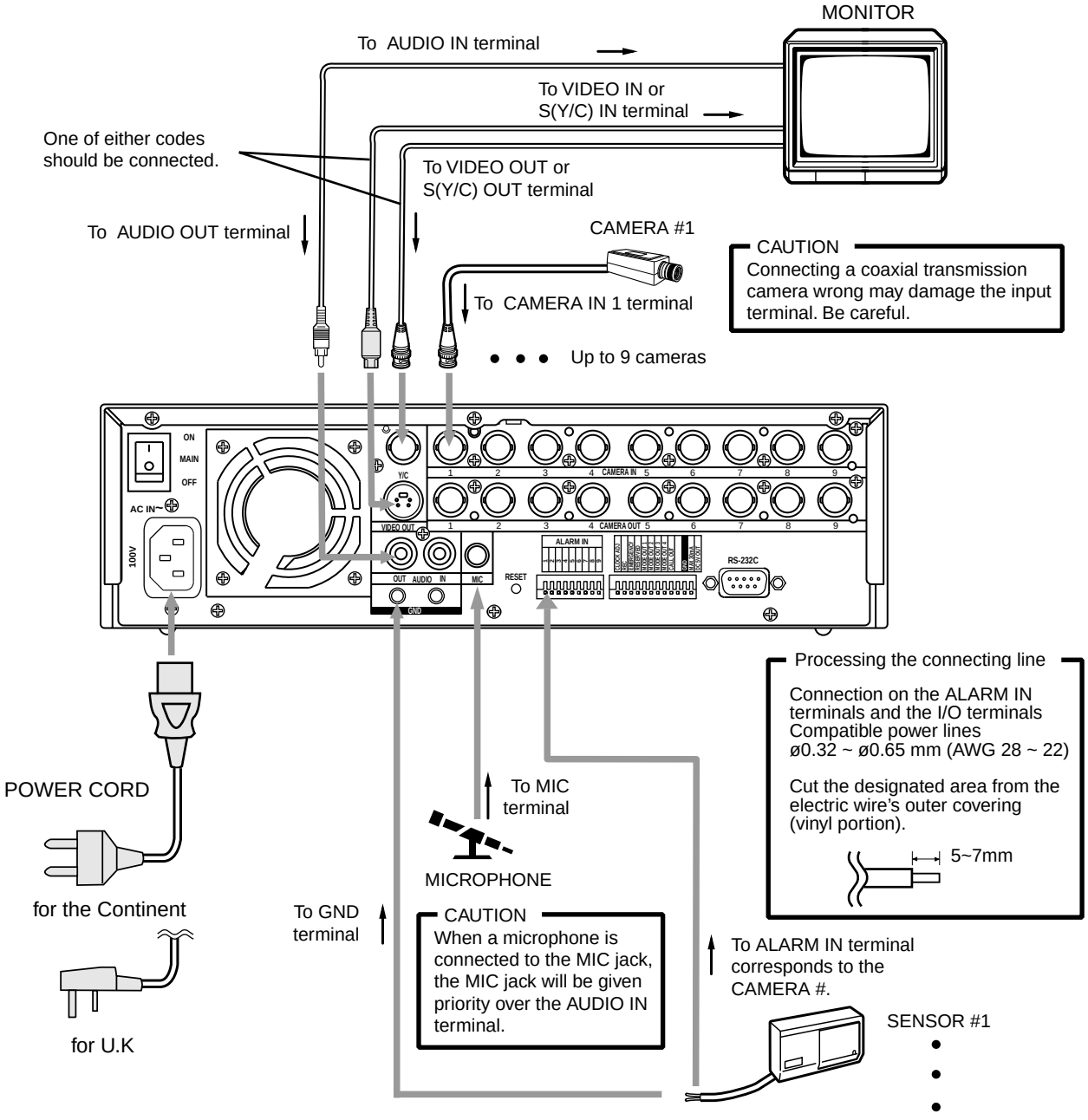
- Selecting the camera number of palyback.
  - ☞ See "<MPX DISPLAY SETTINGS>", pages 26, 27.
- Selecting the sequence screen.
  - ☞ See "♦ SPLIT/SEQUENCE button operations", page 26.
- Playback
  - ☞ See "■ Basic playback", page 14.
- Selecting the interval of playback.
  - ☞ See "Various playback functions", pages 50, 51.

▼

Copy the data

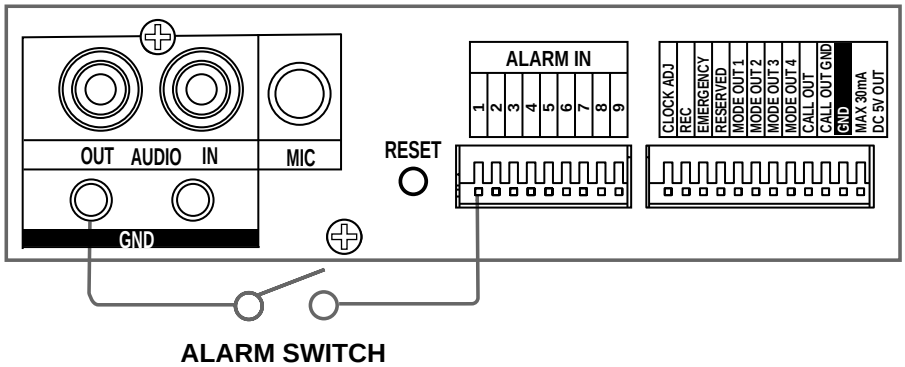
- Insert the Compact Flash Card.
  - ☞ See "■ Inserting/Ejecting Compact Flash Card", page 9.
- Setting the copy function.
  - ☞ See "Making copies", pages 56, 57.

■ Connecting to CCTV camera, monitor, sensor, the electric power supply



■ Alarm Recording Connection

Example : The diagram below shows an example of connection for alarm signals corresponding to camera number 1.



ALARM SWITCH

■ Connecting with an external recording device

This unit is equipped with video output (RCA) and audio output (RCA) terminals on the front and S(Y/C) OUT, VIDEO OUT (BNC) and AUDIO OUT (RCA) tereminals on the rear. Video signals can be simultaneously outputted from the video output terminal on the front and the VIDEO OUT/S OUT terminals on the rear. In the same manner, audio signals can be outputted in simultaneously from the audio output terminal on the front and AUDIO OUT terminal on the rear. By connecting an analog video recorder to these terminal, recorded contents can be copied.

■ Initializing device

In the <HDD CONFIGURATION> setting, device initialization and HDD REC mode selection can be performed. When initializing the device, all device data is erased.

1. Set the MAIN switch on the rear of the unit to ON. When the ACCESS indicator turns off, press the POWER button on the front of the unit while holding down the REC/STOP button.

• "SETTING UP..." appears on the screen and the unit is booted. When boot-up is completed, the <HDD CONFIGURATION> screen appears.

• POWER button operation will not be accepted while the ACCESS indicator is flashing. Press the POWER button after the indicator turns off.

```
<HDD CONFIGURATION>
HDD
   MASTER HDD(80GB)
   SLAVE  NONE


››POWER OFF   INITIALIZE

 HDD REC MODE            NORMAL


 ALL HDD DATA WILL BE ERASED
```

2. Turn the JOG dial to display "INITIALIZE" and turn the SHUTTLE ring clockwise.

• "SETTING UP..." appears on the screen and initialization starts.

• When completed with initialization, the display returns to the normal screen.

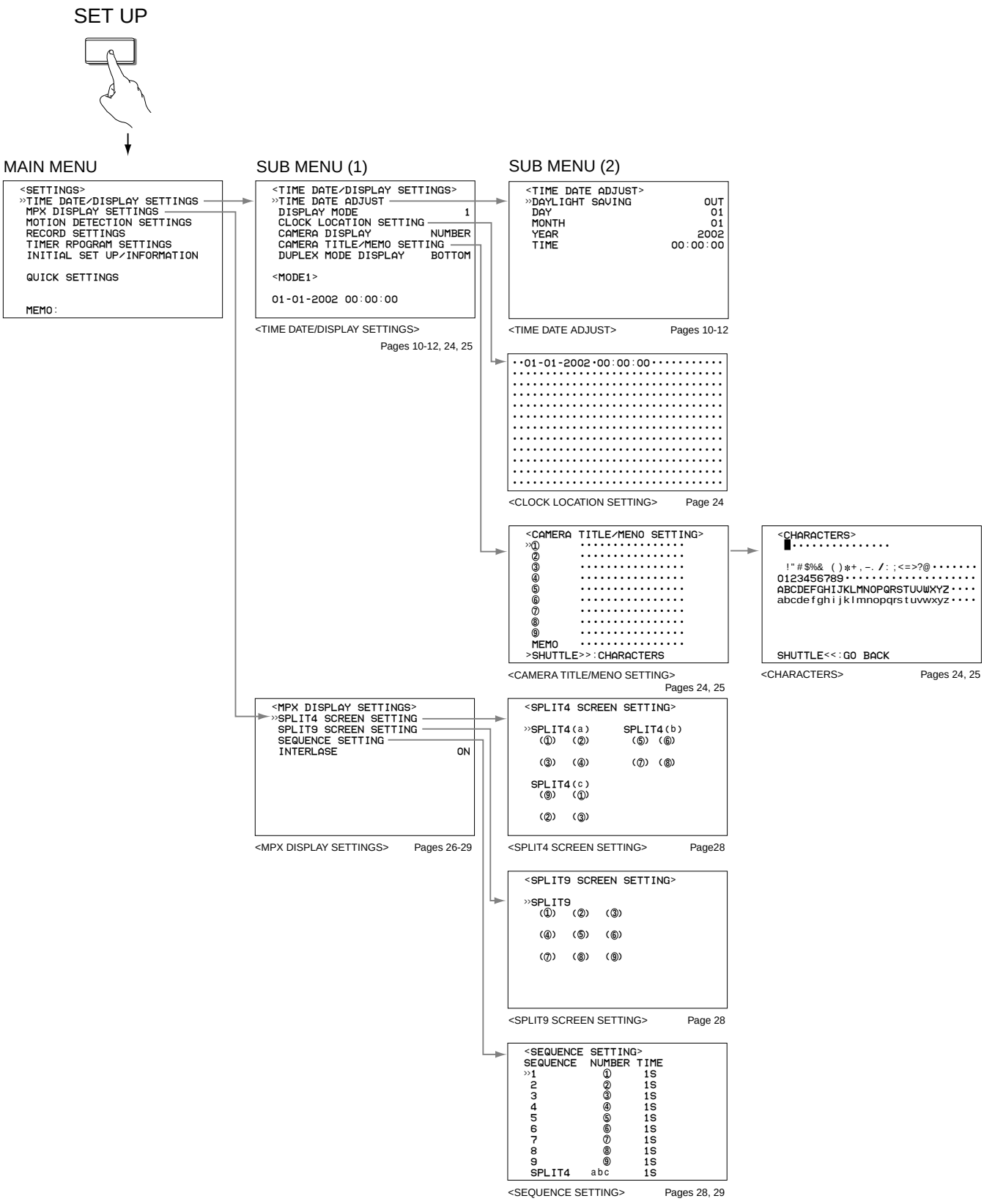
ⓘ All data in the Alarm List will be deleted, and recording will start from 00001.

➲ To not perform initialization, select "POWER OFF".

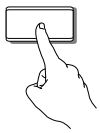
■ MENU SETTING

You can set the basic settings for this unit in the MENU SETTING. Refer to pages shown below for details.

During playback, recording, pre-alarm recording stand-by mode you cannot change setting of some MENUs.



SET UP



MAIN MENU

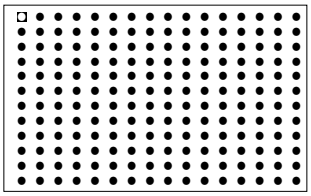
```
<SETTINGS>
»TIME DATE/DISPLAY SETTINGS
 MPX DISPLAY SETTINGS
 MOTION DETECTION SETTINGS
 RECORD SETTINGS
 TIMER RPOGRAM SETTINGS
 INITIAL SET UP/INFORMATION

 QUICK SETTINGS


 MEMO:
```

SUB MENU (1)

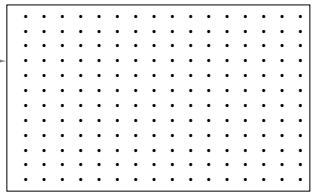
```
<MOTION DETECTION SETTINGS>
»SELECTION CAMERA NUMBER      ①
 MOTION DETECTION           OFF
 DETECTION MASK SETTING
 SENSITIVITY       HIGH··<<<LOW
 MOTION THRESHOLD             1
 TEST MODE
```

<MOTION DETECTION SETTINGS>
Pages 29-31

SUB MENU (2)



<DETECTION MASK SETTING> Page 30



<TEST MODE> Page 31

```
<RECORD SETTINGS>
»RECORD SETTING
 ALARM REC DURATION          5S
 PRE ALARM REC              OFF
```

<RECORD SETTINGS> Pages 12-14,32 ,33

```
<RECORD SETTING>   ALARM PLUS
NO.PPS    GRADE A-PPS  A-GRADE
»① 1.39P  STD   1.39P  STD
 ② 1.39P  STD   1.39P  STD
 ③ 1.39P  STD   1.39P  STD
 ④ 1.39P  STD   1.39P  STD
 ⑤ 1.39P  STD   1.39P  STD
 ⑥ 1.39P  STD   1.39P  STD
 ⑦ 1.39P  STD   1.39P  STD
 ⑧ 1.39P  STD   1.39P  STD
 ⑨ 1.39P  STD   1.39P  STD
<ESTD TIME>              □□□H□□M
```

<RECORD SETTING> Pages 12-14, 32, 33

```
<TIMER PROGRAM SETTINGS>
»SELECTED PATTERN        P1-SET
 HOLIDAY SETTING
 REC MODE A   NORMAL&ALARM-SET
 REC MODE B   NORMAL&ALARM-SET
 REC MODE C   NORMAL&ALARM-SET
 REC MODE D   NORMAL&ALARM-SET
 ALARM REC DURATION          5S
 PRE ALARM REC            SHORT
```

<TIMER PROGRAM SETTINGS> Pages 34-36

```
<TIMER PROGRAM>              P1
   DW   START END   MODE M-DET
»1 ---  --:-- --:-- ---- ---
 2 ---  --:-- --:-- ---- ---
 3 ---  --:-- --:-- ---- ---
 4 ---  --:-- --:-- ---- ---
 5 ---  --:-- --:-- ---- ---
 6 ---  --:-- --:-- ---- ---
 7 ---  --:-- --:-- ---- ---
 8 ---  --:-- --:-- ---- ---

 SPL   SAT-SUN
```

<TIMER PROGRAM> Pages 34, 35

```
<HOLIDAY SETTING>
--/--  --/--  --/--  --/--
--/--  --/--  --/--  --/--
--/--  --/--  --/--  --/--
--/--  --/--  --/--  --/--
--/--  --/--  --/--  --/--



 DAY/MONTH
```

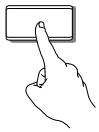
<HOLIDAY SETTING> Page 35

```
<REC MODE A>       ALARM PLUS
NO.PPS    GRADE A-PPS  A-GRADE
»① 1.39P  STD   1.39P  STD
 ② 1.39P  STD   1.39P  STD
 ③ 1.39P  STD   1.39P  STD
 ④ 1.39P  STD   1.39P  STD
 ⑤ 1.39P  STD   1.39P  STD
 ⑥ 1.39P  STD   1.39P  STD
 ⑦ 1.39P  STD   1.39P  STD
 ⑧ 1.39P  STD   1.39P  STD
 ⑨ 1.39P  STD   1.39P  STD
<ESTD TIME>              □□□H□□M
```

<REC MODE A> ~ <REC MODE D>
Pages 35, 36

CAUTION : For <ESTD TIME>,
☞ see “Continuous recording time table” , page 82.

SET UP



MAIN MENU

```
<SETTINGS>
»TIME DATE/DISPLAY SETTINGS
 MPX DISPLAY SETTINGS
 MOTION DETECTION SETTINGS
 RECORD SETTINGS
 TIMER RPOGRAM SETTINGS
 INITIAL SET UP/INFORMATION

 QUICK SETTINGS


 MEMO:
```

SUB MENU (1)

```
<INITIAL SET UP/INFORMATION>
»HDD SETTINGS
 AUDIO RECORDING              OFF
 REAR TERMINAL SETTINGS
 RS-232C
 INFORMATION/SERVICE
```

<INITIAL SET UP/INFORMATION> Pages 37-43

```
<QUICK SETTINGS>
»LOAD SETTING DATA FROM CFC
 SAVE SETTING DATA TO CFC
```

<QUICK SETTINGS> Page 43

SUB MENU (2)

```
<HDD SETTINGS>
»HDD REPEAT REC              OFF
 HDD REPEAT PLAY             OFF
 IM-CHECK PLAY               OFF
 SEQUENTIAL PLAY             OFF
```

<HDD SETTINGS> Pages 37, 38

```
<REAR TERMINAL SETTINGS>
»MODE OUT 1                  OFF
 MODE OUT 2                  OFF
 MODE OUT 3                  OFF
 MODE OUT 4                  OFF
 KEY SOUND                    ON
 BUZZER                   REMAIN
 REMAIN HDD              HDD-10%
 CALL OUT SETTINGS
 EMERGENCY REC DURATION      10M
```

<REAR TERMINAL SETTINGS> Pages 39-41

```
<RS-232C>
»MODE                    REMOTE A
 SETTINGS
```

<RS-232C> Page 41

```
<INFORMATION/SERVICE>
»HDD INFORMATION
 CFC INFORMATION

 WARNING LOG LIST
 SETTING DATA INITIALIZE

 HDD DATA CLEAR
 CFC DATA CLEAR


 ELAPSED TIME          10H
```

<INFORMATION/SERVICE> Pages 42, 43

SUB MENU (3)

```
<SETTING DATA INITIALIZE>

»EXECUTE




SHUTTLE>>:EXECUTE,<<:CANCEL
```

<SETTING DATA INITIALIZE> Pages 42, 43

```
<HDD DATA CLEAR>




     PUSH WARINIG RESET KEY
     FOR 1 SECOND TO CLEAR
```

<HDD DATA CLEAR> Page 43

```
<CFC DATA CLEAR>




     PUSH WARNING RESET KEY
     FOR 1 SECOND TO CLEAR
```

<CFC DATA CLEAR> Page 43

SUB MENU (3)

```
<CALL OUT SETTINGS>
»HDD REMAIN                  OFF
 HDD FULL                    OFF
```

<CALL OUT SETTINGS> Pages 40, 41

```
<RS-232C SETTINGS>
»TRANSMISSION MODE          1200
 DATA BIT LENGTH            8BIT
 PARITY BIT                 NONE
 STOP BIT LENGTH            1BIT
 DELIMITER                    CR
```

<RS-232C SETTINGS> Pages 41, 42

```
<INFORMATION>
HDD
   MASTER HDD(80GB)
   SLAVE  NONE

   START  ---------- --:--:--
   END    ---------- --:--:--
```

<INFORMATION> (HDD) Page 42

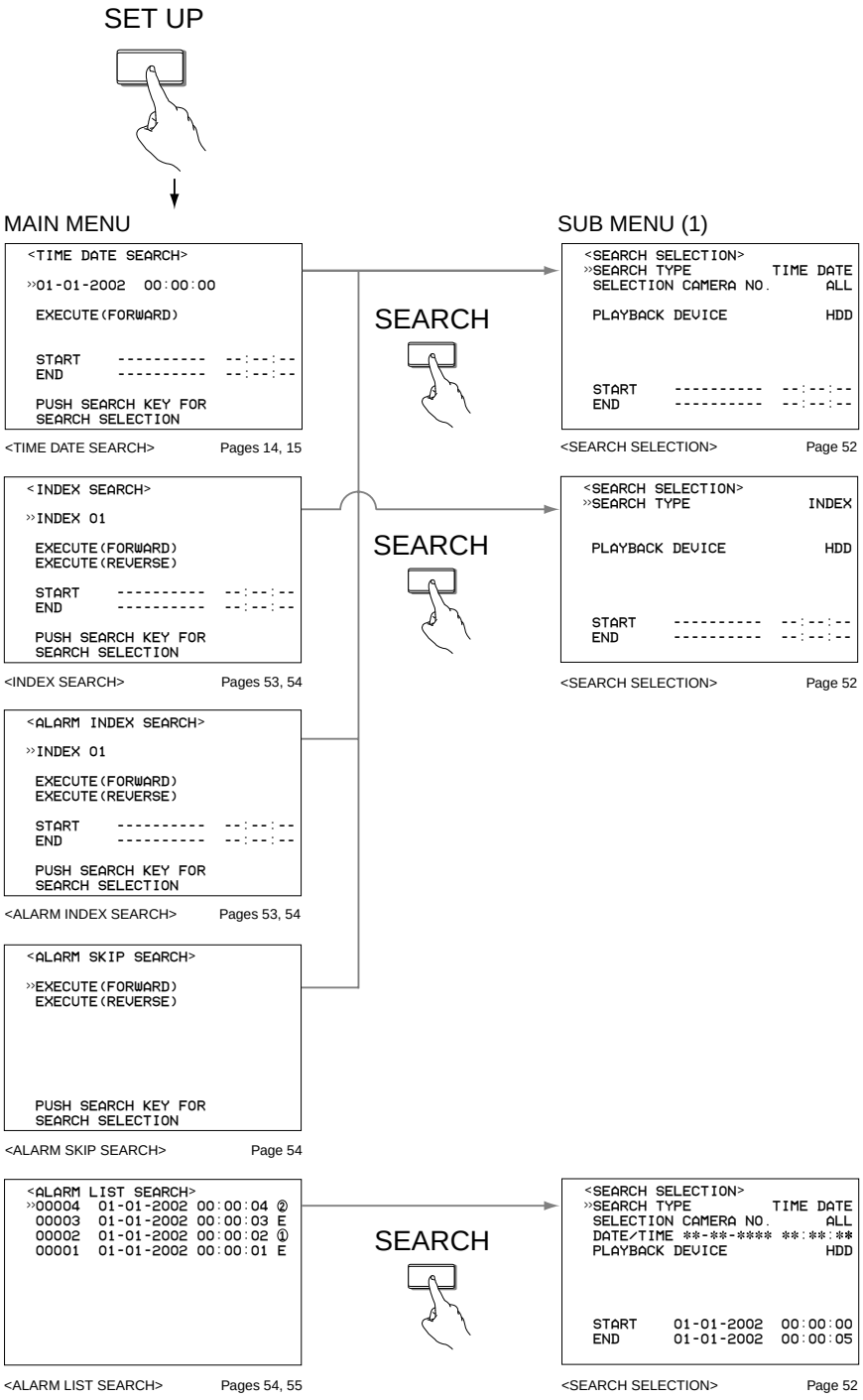
```
<INFORMATION>
CFC
   CAPACITY  64MB
   MENU INFORMATION


   START  ---------- --:--:--
   END    ---------- --:--:--
```

<INFORMATION> (CFC) Page 42

```
<WARNING LOG LIST>
NO   DATE     TIME     WARNING
»0001 01-01-02 00:00:00 ALM ON
```

<WARNING LOG LIST> Page 42

■ SEARCH SELECTION MENU



◆ TIME DATE ADJUST

☞ See page 11, 12.

■ DISPLAY MODE

Display format of the date and current time can be set.

```
<TIME DATE/DISPLAY SETTINGS>
 TIME DATE ADJUST
»DISPLAY MODE                1
 CLOCK LOCATION SETTING
 CAMERA DISPLAY          NUMBER
 CAMERA TITLE/MEMO SETTING
 DUPLEX MODE DISPLAY     BOTTOM

<MODE1>

01-01-2002 00:00:00
```

Setting (default : “1”)
“1” : Displays the month/date/year, current time.

“2” : Displays the month/date/year, day of week, current time, recorded interval (playback only).

“3” : Displays the date, day of the week, time, recorded interval (playback only), HDD usage space (during recording/playback only if CAPACITY REMAIN is set to HDD), and alarm recording number (during alarm recording/playback).

“4” : No indication.
(When alarm signal is input, Displays the month/date/year, day of week, current time.)

“5” : No indication.
(When warning signal is input, Displays warning message.)

“6” : No indication.

<MODE1>

```
01-01-2002 00:00:00
```

<MODE2>

```
01-01-2002 TUE
00:00:00 12.5P
```

<MODE3>

```
01-01-2002 TUE
00:00:00 12.5P      99% A00001
```

1. Press the SET UP button → <SETTINGS> → Select “DISPLAY MODE” in the <TIME DATE/DISPLAY SETTINGS> screen. Display the desired setting and confirm.

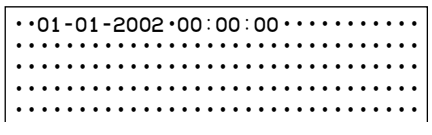
2. Turn the SHUTTLE ring counterclockwise or press the SET UP button.

■ CLOCK LOCATION SETTING

The display positions of the date and current time can be set.

1. Press the SET UP button → <SETTINGS> → Select “CLOCK LOCATION SETTING” in the <TIME DATE/DISPLAY SETTINGS> screen and turn the SHUTTLE ring clockwise.

• The <*CLOCK LOCATION SETTING*> screen appears.



2. Use the ◀, ▶, ▲ and ▼ buttons and the JOG dial to move the cursor to the desired display position and turn the SHUTTLE ring clockwise.

• The setting is confirmed.

➲ The cursor can be continuously moved vertically by turning the JOG dial.

3. Turn the SHUTTLE ring counterclockwise or press the SET UP button.

■ CAMERA DISPLAY

Setting can be made to display the title and memo set in “CAMERA DISPLAY” , camera number. only, etc.

```
<TIME DATE/DISPLAY SETTINGS>
 TIME DATE ADJUST
 DISPLAY MODE                1
 CLOCK LOCATION SETTING
»CAMERA DISPLAY          NUMBER
 CAMERA TITLE/MEMO SETTING
 DUPLEX MODE DISPLAY     BOTTOM

<MODE1>

01-01-2002 00:00:00
```

Setting (default : “NUMBER”)
“NUMBER” : Only the camera number is displayed.

“TITLE” : The title set in “CAMERA TITLE/MEMO SETTING” is displayed. The title can also be recorded along with the video.

“COMMENT” : The comment set by RS-232C connection is displayed.

“NONE” : No display.

1. Press the SET UP button → <SETTINGS> → Select “DISPLAY MODE” in the <TIME DATE/DISPLAY SETTINGS> screen. Display the desired setting and confirm.

2. Turn the SHUTTLE ring counterclockwise or press the SET UP button.

■ CAMERA TITLE/MEMO SETTING

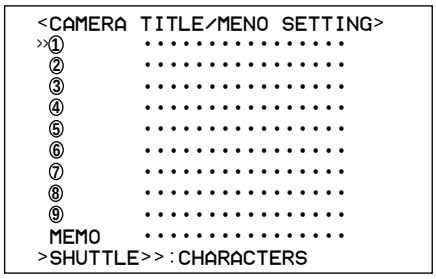
Titles can be set individually to each connected camera. When selecting “TITLE” in “CAMERA DISPLAY”, the title, such as the location of the camera, will appear on the screen for an easy-to-understand monitoring system.

➲ The maximum number of characters for the title is 16. The number of characters displayed on the screen : all 16 for single screen, first 10 for SPLIT4, and first 6 for SPLIT9.

Example : When setting titles of “ENTRANCE” and “COUNTER” to camera number “ ① ” and “ ④ ”4, respectively, and setting memo of “BANK”.

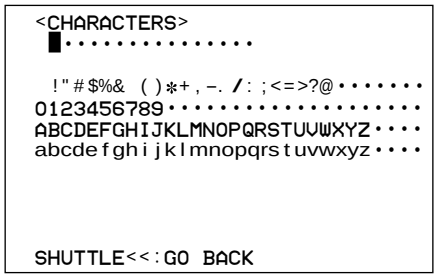
1. Press the SET UP button → <SETTINGS> → Select “CAMERA TITLE/MEMO SETTING” in the <TIME DATE/DISPLAY SETTINGS> screen and turn the SHUTTLE ring clockwise.

• The <CAMERA TITLE/MEMO SETTING> screen appears.



2. Turn the JOG dial to select camera number " ① " and turn the SHUTTLE ring clockwise.

• The <CHARACTERS> screen appears and the character on the very left of the string is displayed in reversed color.



3. Turn the SHUTTLE ring clockwise.

• The very left character " " (space) on the bottom row of the available characters turns red and flashes.

4. Use the ◀, ▶, ▲ and ▼ buttons and the JOG dial to select "E" and turn the SHUTTLE ring clockwise.

• "E" appears in reversed color on the very left of the string.

➲ The JOG dial can be turned to continuously move the cursor horizontally.

5. Turn the JOG dial clockwise to reverse display the character on the right.

6. Repeat steps 3 ~ 5 to input "ENTRANCE" in the string.

• To erase an inputted character, move the cursor to the very left character " " (space), turn the SHUTTLE ring clockwise and confirm.

• To change a character inputted in error :

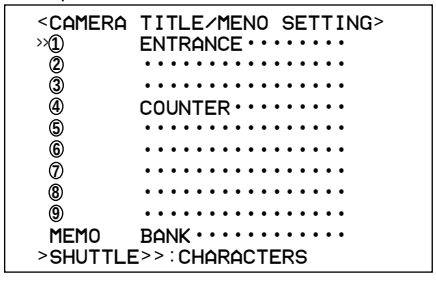
1. While one of the characters in the string is displayed in reversed color, turn the JOG dial to reverse display the character to change.

2. Perform steps 3 and 4.

7. When completed with input, turn the SHUTTLE ring counterclockwise.

• The display returns to the <CAMERA TITLE/MEMO SETTING> screen.

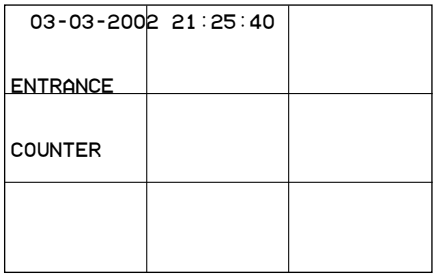
Example <CAMERA TITLE/MEMO SETTING>



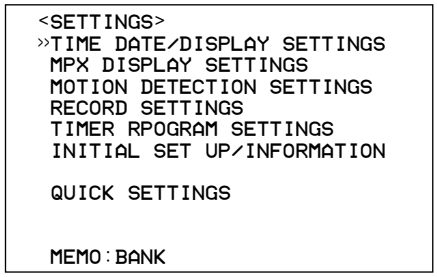
8. Repeat steps 2 ~ 7 to set camera number " ④ " and memo.

9. Turn the SHUTTLE ring counterclockwise or press the SET UP button.

Example <SPLIT9 SCREEN SETTING>

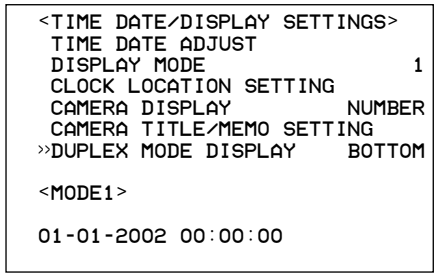


Example <MEMO SETTING>



■ DUPLEX MODE DISPLAY

Operation conditions such as PLAYBACK, COPY, REC and ALARM REC (ALARM REC is displayed in red during emergency recording), etc., can be displayed on the upper or lower portions of the screen.



Setting (default : "BOTTOM")

"BOTTOM" : The operation condition is displayed on the bottom of the screen.

"OFF" : The operation condition is not displayed.

"TOP" : The operation condition is displayed on the top of the screen.

1. Press the SET UP button → <SETTINGS> → Select "DUPLEX MODE DISPLAY" in the <TIME DATE/DISPLAY SETTINGS> screen. Display the desired setting and confirm.

2. Turn the SHUTTLE ring counterclockwise or press the SET UP button.

<MPX DISPLAY SETTINGS>

The multiplexer function of this unit allows the connected camera video to be displayed using SPLIT4 and SPLIT9 screens. It is also possible to set the order of the camera number displayed. Basic operations of the multiplexer can also be found on ☞ see page 10.

■ Multiplexer function related button operations/operation table

♦ Camera number button operations

When pressing a camera number button, the video of the camera connected to that camera number terminal is displayed using a single screen. Even during split/sequential screen display, video from any camera can be displayed using a single screen by pressing the respective camera number button.

♦ SPLIT/SEQUENCE button operations

By pressing the SPLIT/SEQUENCE button, the display modes shown below set in each split screen setting of the multiplexer setting can be displayed in order.

Available modes
"SPLIT9", "SPLIT4(a)", "SPLIT(b)", "SPLIT(c)", "SPLIT4 sequential", "SPLIT9 sequential"

➲ During playback, only the underlined displayed modes can be selected.

➲ Single screen sequential playback is possible by setting "SEQUENTIAL PLAY" in the <HDD SETTINGS> to "ON".

➲ The split screen setting can be set using "SPLIT4 SCREEN SETTING" or "SPLIT9 SCREEN SETTING" in the <MPX DISPLAY SETTINGS> screen.

➲ The update speed of camera video becomes slower as the quantity of camera increases. For smoother video playback, remove unnecessary cameras by setting "PPS" or "A-PPS" in the <REC ORD SETTING> screen to "- - - - -".

To return the screen to single screen display

Pressing a camera number button (1 ~ 9) cancels the split/sequential display and returns to the single screen display of the pressed camera number button. Pressing the SPLIT/SEQUENCE button again returns the screen to the split/sequential display previous to canceling.

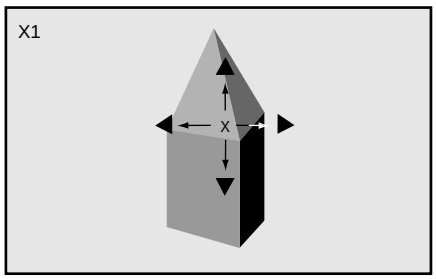
ⓘ When a menu screen and split/sequential display are displayed simultaneously, the single screen display will not appear even when pressing a camera number button. In this case, clear the menu screen and then press a camera number button (1 ~ 9).

♦ ZOOM button operations

By pressing the ZOOM button in single screen display, the displayed video can be viewed at 100%, 200% or 400% magnification.

ⓘ The magnification display function can only be set when in the single screen mode. The screen can be moved vertically and horizontally with the magnification center point (X) as the axis by pressing the MOVE buttons.

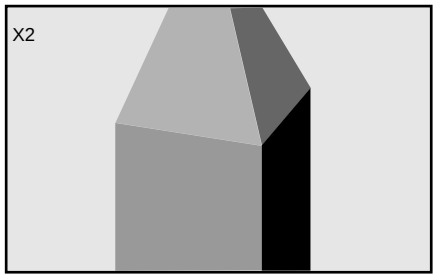
1. Press the ZOOM button during single screen display.
• "100%" appears on the top left the single screen display and the magnification center point (X) appears at the center of the screen.

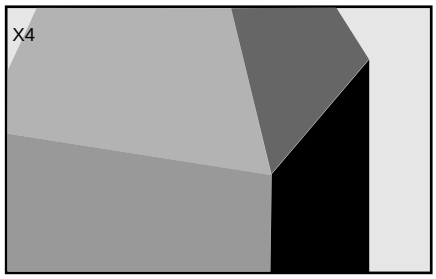


2. To shift the screen vertically or horizontally, press the ◀, ▶, ▲ and ▼ buttons.

➲ The position of the magnification center point is stored even when the display screen is switched or the power is turned off. This is convenient when the point to magnify is determined in advance.

3. Press the ZOOM button.
• Pressing the button each time switches the magnification in order of 200%, 400%, normal and 100%.





➲ The magnification function can also be used during playback or recorded contents.

INFORMATION

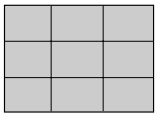
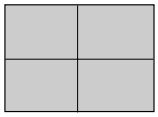
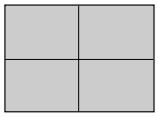
A back screen may appear when pausing recorded video of multiple cameras in the single screen display mode and magnifying. In this case, display the magnified screen by turning the JOG dial and forwarding a frame.

INFORMATION

The magnification display function of this unit uses digital magnification and screen details may appear pixelized when magnifying.

■ The function of the SPLIT/SEQUENCE button, ZOOM button, and camera number buttons

ⓘ The screen of cameras with no video input signal will appear blue. Furthermore, the screen of cameras set to "OFF" for COVERT CAMERA during split screen display will appear black (☞ see page 59).

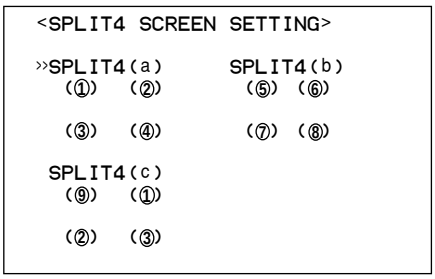
Display	SPLIT/ SEQUENCE button	ZOOM button	Flashing/illuminating Of Camera number buttons	Page
SPLIT9 	SPLIT/ SEQUENCE OFF	ZOOM OFF	The video of camera number selected in <MPX DISPLAY SETTINGS> → <SPLIT9 SCREEN SETTING> screen is displayed using SPLIT9 display. During video display, the corresponding camera number button lights.	28
SPLIT4 (a) SPLIT4 (b) SPLIT4 (c) 	SPLIT/ SEQUENCE OFF	ZOOM OFF	The video of camera number selected in <MPX DISPLAY SETTINGS> → <SPLIT4 SCREEN SETTING> screen is displayed using SPLIT4 display. During video display, the corresponding camera number button lights.	28
SPLIT4 Sequential 	SPLIT/ SEQUENCE Iluminating	ZOOM OFF	The SPLIT4 screen video set in <MPX DISPLAY SETTINGS> → <SEQUENCE SETTING> screen is displayed and updated in order by the set switching time.	28, 29
Single screen Seqential	SPLIT/ SEQUENCE Iluminating	ZOOM OFF	The single screen video set in <MPX DISPLAY SETTINGS> → <SEQUENCE SETTING> screen is displayed and updated in order by the set switching time.	28, 29
Single screen — Not enlarged	SPLIT/ SEQUENCE OFF	ZOOM OFF	Camera number button which has display is illuminating.	10, 26
Single screen — Enlarged	SPLIT/ SEQUENCE OFF	ZOOM Iluminating	Camera number buttons which has been activated as 100%, 200% or 400% will be illuminated.	10, 26
During Alarm recording and Pre-alalrm recording *If the Alarm signal and pre-alarm signal is input during SPLIT/SEQUENCE mode.			Regardless of SPLIT9, SPLIT4 or Single screen, camera number buttons which are activated via the Alarm recording and Pre-alarm recording start flashing.	48

■ SPLIT4 SCREEN SETTING

For the SPLIT4 SCREEN SETTING, 3 types of SPLIT4 screen types (a, b and c) can be set.

1. Press the SET UP button → <SETTINGS> → Select "SPLIT4 SCREEN SETTING" in the <MPX DISPLAY SETTINGS> screen and turn the SHUTTLE ring clockwise.

• The <SPLIT4 SCREEN SETTING> screen appears.



2. Turn the JOG dial to select the split display to set (a, b or c) and turn the SHUTTLE ring clockwise.

• The (most upper left) camera number reverses in color.

3. Turn the JOG dial to move to the camera number with the reversed display and turn the SHUTTLE ring clockwise.

• The background of the camera number turns red and flashes.

4. Turn the JOG dial to display the camera number to set and turn the SHUTTLE ring.

• Flashing stops.

ⓘ The same camera number can be selected multiple times to a single split screen display. However, only a single screen will appear for sequential playback.

5. Repeat steps 3 and 4 to set the desired camera number.

6. When completed with setting, turn the SHUTTLE ring counterclockwise.

• Setting is confirmed and the cursor appears.

7. To set other split screen displays, repeat steps 2 ~ 6.

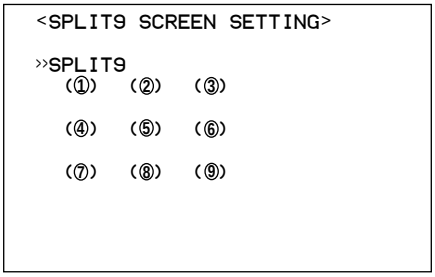
8. When completed with all settings, turn the SHUTTLE ring counterclockwise or press the SET UP button.

ⓘ The <SPLIT4 SCREEN SETTING> screen cannot be exited when camera number is flashing.

■ SPLIT9 SCREEN SETTING

1. Press the SET UP button → <SETTINGS> → Select "SPLIT9 SCREEN SETTING" in the <MPX DISPLAY SETTINGS> screen and turn the SHUTTLE ring clockwise.

• The <SPLIT9 SCREEN SETTING> screen appears.



2. Turn the SHUTTLE ring clockwise.

• The (most upper left) camera number reverses in color.

3. Turn the JOG dial to move to the camera number with the reversed display and turn the SHUTTLE ring clockwise.

• The background of the camera number turns red and flashes.

4. Turn the JOG dial to display the camera number to set and turn the SHUTTLE ring.

• Flashing stops.

ⓘ The same camera number can be selected multiple times to a split screen display. However, only a single screen will appear for sequential playback.

5. Repeat steps 3 and 4 to set the desired camera number.

6. When completed with setting, turn the SHUTTLE ring counterclockwise.

• Setting is confirmed and the cursor appears.

7. Turn the SHUTTLE ring counterclockwise or press the SET UP button.

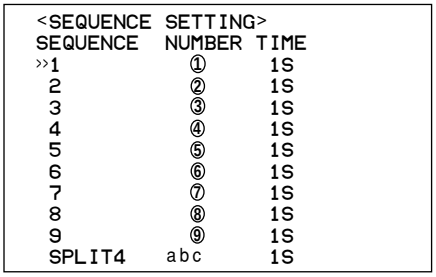
ⓘ The <SPLIT9 SCREEN SETTING> screen cannot be exited when camera number is flashing.

■ SEQUENCE SETTING

The display order of connected camera video can be switched automatically or the switching time can be set. Furthermore, the 3 types of split screen displays set in "SPLIT4 SCREEN SETTING" can be switched automatically or the same camera can be displayed repeatedly.

1. Press the SET UP button → <SETTINGS> → Select "SEQUENCE SETTING" in the <MPX DISPLAY SETTINGS> screen and turn the SHUTTLE ring clockwise.

• The <SEQUENCE SETTING> screen appears.



2. Select the desired display order (1 ~ 9) and turn the SHUTTLE ring clockwise twice.

• The camera number display reverses in color when the SHUTTLE ring is turned the first time. When the ring is turned for the second time, the background turns red and flashes.

• Setting (default : " ① ")

" ①", " ②", " ③", " ④", " ⑤", " ⑥", " ⑦", " ⑧", " ⑨", " - "

" - " : No display.

3. Display the desired camera number to display and turn the SHUTTLE ring clockwise.

• The setting is confirmed.

4. Turn the JOG dial clockwise to shift the reversed display to "TIME" and turn the SHUTTLE ring clockwise.

• The background of the "TIME" setting turns red and flashes.

5. Display the desired time and turn the SHUTTLE ring clockwise.

- **The setting is confirmed and flashing stops.**
- **The time can be set at 1 second intervals (max. 30 seconds).**

6. Repeat steps 2 ~ 5 to set other display orders of camera number and time.

7-1. (When setting switching for SPLIT4 sequential display • • •)

Select "SPLIT4" and turn the SHUTTLE ring clockwise twice.

- **The setting reverses in color when the SHUTTLE ring is turned the first time. When the ring is turned for the second time, the background turns red and flashes.**

7-2. Display the desired item to set and turn the SHUTTLE ring clockwise.

- **The setting is confirmed.**
- **Setting (defalt : "abc")**

"abc" : SPLIT4(a), (b) and (c) are displayed using sequence display.

"ab" : SPLIT4(a) and (b) are displayed using sequence display.

7-3. Turn te JOG dial clockwise to shift the reversed display to "TIME" and turn the SHUTTLE ring clockwise.

- **The background of the "TIME" setting turns red and flashes.**

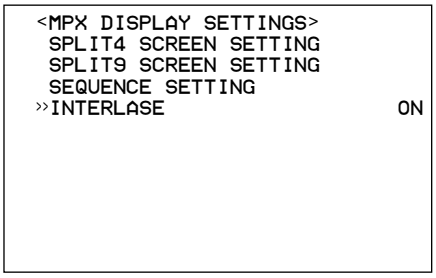
7-4. Display the desired time and turn the SHUTTLE ring clockwise.

- **The setting is confirmed and flashing stops.**

8. When completed with all settings, turn the SHUTTLE ring counterclockwise or press the SET UP button.

■ INTERLASE

The picture quality when splitting the screen of camera video can be set.



Setting (default : "ON")
"ON" : Video is displayed in detail.

"OFF" : Screen flickering is reduced.

ⓘ Although screen flickering of video during SPLIT4 and SPLIT9 screen display can be reduced when setting "INTERLASE" to "OFF", the vertical resolution will drop.

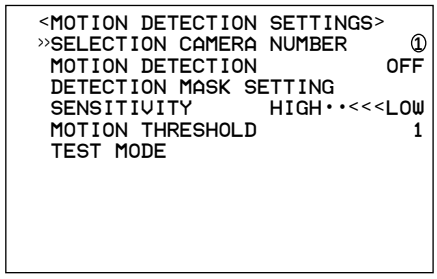
1. Press the SET UP button → <SETTINGS> → Select "INTERLASE in the <MPX DISPLAY SETTINGS> screen. Display the desired setting and confirm.

2. Turn the SHUTTLE ring counterclockwise or press the SET UP button.

In this menu, the conditions of the motion detection function for alarm recording, which is started when detecting motion within the video of the connected camera, are set.

■ SELECTION CAMERA NUMBER

The camera for motion detection setting is selected. Since settings can be made for each camera, more detailed settings are possible.



Setting (default : " ① ")
" ①", " ②", " ③", " ④", " ⑤", " ⑥", " ⑦", " ⑧", " ⑨ "

ⓘ When selecting the <MOTION DETECTION SETTINGS> screen during single screen display of any specified camera number, that camera will be displayed as the initial value of "SELECTION CAMERA NUMBER".

1. Press the SET UP button → <SETTINGS> → Select "SELECTION CAMERA NUMBER" in the <MOTION DEECTION SETTINGS> screen. Display the desired setting and confirm.

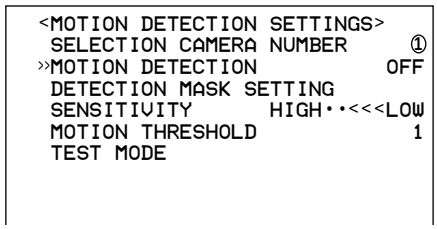
2. Confirm the "SELECTION CAMERA NUMBER" setting to switch the background to the video of the selected camera number.

3. Turn the SHUTTLE ring counterclockwise or press the SET UP button.

ⓘ The motion detection function will not operate when the <MOTION DETECTION SETTINGS> menu screen is displayed.

■ MOTION DETECTION

The motion detection function of each connected camera can be activated/inactivated here. Motion detection of the specified camera will operate for the first time when enabling this setting.



ⓘ Set the motion detection of each camera to "ON".

Setting (default : "OFF")
"ON" : Activates motion detection for the connected camera.

"OFF" : Inactivates motion detection for the connected camera.

1. In the above "SELECTION CAMERA NUMBER", select the camera to activate/inactivate motion detection.

2. In "MOTION DETECTION", display the desired setting and turn the SHUTTLE ring clockwise.

• The setting is confirmed and flashing stops.

■ DETECTION MASK SETTING

The area to activate motion detection is set here. Any of the 192 dotted detection areas displayed by splitting individually loaded video to equal 16 X 12 pixel sizes can be selected and set.

Definition of setting mark (default : all areas " ● " (active)).
" ● " : Area activated with motion detection.
" • " : Area inactivated with motion detection.

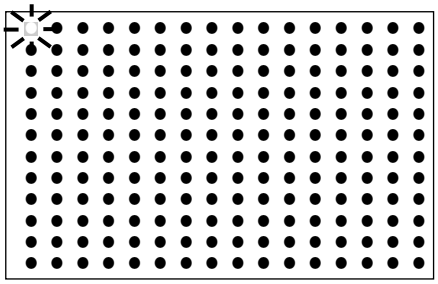
➲ It is possible to set various areas per camera.

Example of screen setting
For the video loaded from the camera set in "SELECTION CAMERA NUMBER" :
• Display " ● " for the right half of the screen to activate motion detection.
• Display " • " for the left half of the screen to inactivate motion detection.

1. In "SELECTION CAMERA NUMBER" , select the camera for setting the detection area.

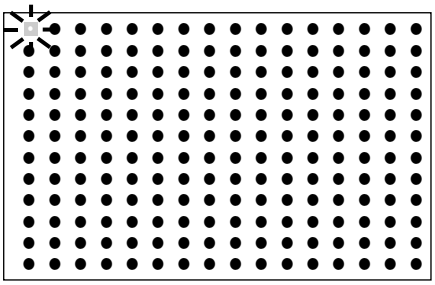
2. Select "DETECTION MASK SETTING" and turn the SHUTTLE ring clockwise.

• The dotted screen with detection areas is displayed and the background of the most upper left dot turns red and flashes.



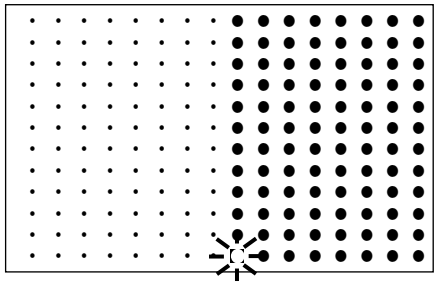
3. Use the ◀, ▶, ▲ and ▼ buttons to select the dot to activate/inactivate and turn the JOG dial clockwise.

• The " ● " (active) setting changes to " • " (inactive) setting.



➲ When pressing the SPLIT/SEQUENCE button, all dots change to " ● " (active). When pressing the ZOOM button, all dots change to " • " (inactive).

4. Repeat step 3 to activate/inactivate all desired dots.



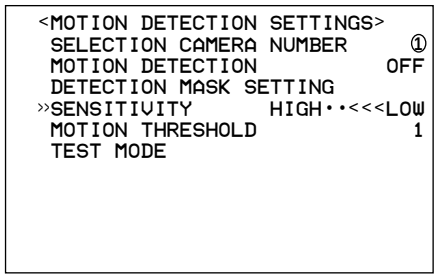
5. Turn the SHUTTLE ring counterclockwise.

• The setting is confirmed and the display returns to the <MOTION DETECTION SETTINGS> screen.

ⓘ During set detection mask setting, other settings are not accepted. To exit the menu screen during setting, turn the SHUTTLE ring counterclockwise.

■ SENSITIVITY

The sensitivity of detection for changes in the loaded video data is set. Video data is sampled every 0.6 seconds and compared for each camera. The sensitivity setting is divided into the 5 levels of brightness.



Setting (default : "HIGH • • < < < LOW")
"HIGH • • • • < LOW", "HIGH • • • < < LOW", "HIGH • • < < < LOW", "HIGH • < < < < LOW", "HIGH < < < < < LOW"

➲ Sensitivity increases as "<" increases from "HIGH • • • • < LOW" to "HIGH < < < < < LOW".

➲ To detect the slightest changes, set to "HIGH < < < < < LOW". However, detection may not operate properly due to flickering of fluorescent lighting, etc.

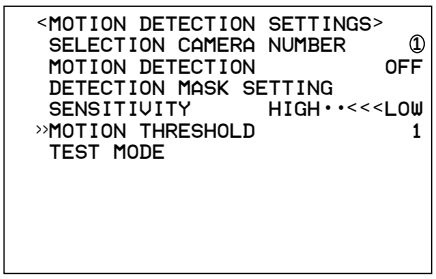
1. Select the camera to set the sensitivity in "SELECTION CAMERA NUMBER" (☞ see page 29).

2. Display the desired setting in "SENSITIVITY" and turn the SHUTTLE ring clockwise.

• The setting is confirmed.

■ MOTION THRESHOLD

The minimum number of dots for starting the motion detection operation from the number of active dots within the detection area is set here. Motion detection operates when change that exceeds the number of minimum dot set is detected.



Setting (default : “1”)
“ 1 ” , “ 2 ”, • • • • • “191”, “192”

ⓘ For MOTION THRESHOLD, set the number of active dots in the detection area as the upper limit. The motion detection function will not operate when setting a value that exceeds this number.

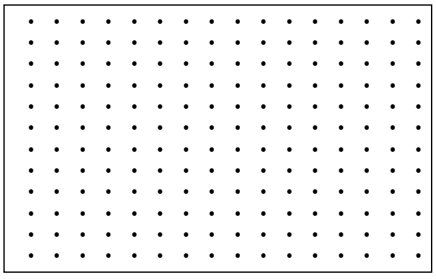
1. Select the camera to set the motion threshold in “SELECTION CAMERA NUMBER” (☞ see page 29).

2. Display the desired setting in “MOTION THRESHOLD” and turn the SHUTTLE ring clockwise.

• The setting is confirmed.

■ TEST MODE

The set motion detection operation is tested here.



1. In “SELECTION CAMERA NUMBER” (☞ see page 29), select the camera to test operates.

2. Set “MOTION DETECTION” on the next row to “ON” and turn the SHUTTLE ring clockwise.

• The setting is confirmed.

3. Select “TEST MODE” and turn the shuttle ring clockwise.

• The operation test begins.

4. To end “TEST MODE”, turn the SHUTTLE ring counter-clockwise.

• During test operation, active areas of motion detection are displayed using “ • ”. The screen displays “ ● ” when motion that meets the each condition of sensitivity and number of dots for recording start is detected. If the motion detection does not operate properly, set the conditions again.

Cautionary items concerning motion detection

• If changes are detected repeatedly, alarm recording is also started repeatedly. Thus functions such as setting change, etc., will not be accepted. In this case, press the ALARM HOLD button to forcibly stop the motion detection function for a period of 5 minutes. During, this time, settings can be changed. This manual stop is automatically restored after 5 minutes and the history of the manual stop is left in the history of the WARNING LOG LIST. To cancel the alarm hold, press the ALARM HOLD button again.

• For the input signals of alarm recording, ALARM IN terminal on the rear is constantly given priority over the others. If the motion detection setting is active, alarm recording is started when the ALARM IN terminal is grounded or when motion is detected.

• The motion detection indicator lights when the motion detection function is in operation and flashes when motion is detected or during alarm hold.

• The motion detection of this unit may not operate correctly depending on the conditions of the inputted video signals. Take caution when connecting to a system, etc., that uses the motion detection function to set off alarms, etc.

• To perform alarm recording during motion detection, set “A-PPS” of the corresponding camera number in the <RECORD SETTING> to other than “- - - - -”.

• Motion detection will not operate while making settings in the <MOTION DETECTION SETTINGS>.

■ Settings concerning normal recording and alarm recording

This unit allows independent settings for normal recording and alarm recording. By this, more detailed settings are possible such as changing the recording intervals of the camera inputting the alarm signals while maintaining the normal recoding settings as they are.

ⓘ During recording, the setting in the <RECORD SETTING> screen cannot be changed.

ⓘ When setting a camera number not connected with a camera in RECORD SETTING, warning display of "NON SIGNAL" appears (for details, see Warnings and CALL OUT output", ☞ see page 87).

■ Recording mode settings for normal recording and alarm recording

The recording intervals and recording picture quality for normal recording and the recording intervals, recording picture quality and whether to perform pre-alarm recording for alarm recording can be set here (for normal recording, see "Basic manual recording", ☞ see pages 12-14). Pre-alarm recording is a function to start recording a few seconds before the ALARM IN terminal on the rear of the unit is grounded or motion is detected during alarm recording (for details concerning pre-alarm recording, ☞ see page 48).

```
 <RECORD SETTINGS>
 »RECORD SETTING
  ALARM REC DURATION          5S
  PRE ALARM REC              OFF
```

1. Press the SET UP button → <SETTINGS> → Select "RECORD SETTING" in the <RECORD SETTINGS> screen and turn the SHUTTLE ring clockwise.

• The <RECORD SETTING> screen appears.

2. Turn the JOG dial and move the cursor to camera selection item for alarm recoding and turn the SHUTTLE ring clockwise.

• The background setting turns red and flashes.

Camera selection during alarm recording

```
 <RECORD SETTING>   ALARM PLUS
 NO.PPS     GRADE A-PPS   A-GRADE
 »① 1.39P   STD   1.39P   STD
  ② 1.39P   STD   1.39P   STD
  ③ 1.39P   STD   1.39P   STD
  ④ 1.39P   STD   1.39P   STD
  ⑤ 1.39P   STD   1.39P   STD
  ⑥ 1.39P   STD   1.39P   STD
  ⑦ 1.39P   STD   1.39P   STD
  ⑧ 1.39P   STD   1.39P   STD
  ⑨ 1.39P   STD   1.39P   STD
 <ESTD TIME>              □□□H□□M
```

CAUTION : For <ESTD TIME>,

☞ see "Continuous recording time table" , page 82.

• Setting (default : "ALARM PLUS ")
"ALL" : Alarm recording is performed for all cameras set for alarm recording.

"ALARM" : Alarm recording is performed for only the cameras set for alarm recording and inputted with alarm signals. When there is input of alarm signals from multiple cameras, alarm recording is performed for all cameras containing alarm signals.

"ALARM PLUS" : Recording is performed in the frame speed set in "A-PPS" for the camera inputted with alarm signals during normal recording. All other cameras will be recording in the normal frame intervals.

3. Display the desired item to set and turn the SHUTTLE ring clockwise.

• The setting is confirmed and flashing stops.

4. (When setting the recording intervals and recording picture quality for normal recording • • •)
Turn the JOG dial to select the desired camera number and turn the SHUTTLE ring clockwise twice.

• The "PPS" setting display reverses in color when the SHUTTLE ring is turned the first time. When the ring is turned for the second time, the background turns red and flashes.

• Setting (default : "15P")
"25P", "12.5P", "8.33P", "6.25P", "5P", "4.17P", "3.13P", "2.5P", "1P", "0.5P", "0.25P", "0.13P", "- - - - -"

"- - - - -" : Recording cannot be performed with camera set to this item.

➲ For details concerning normal recording settings, see "Setting the recording intervals and recording picture quality for normal recording", ☞ see pages 12-14.

5. Display the desired item to set and turn the SHUTTLE ring clockwise.

• The setting is confirmed and flashing stops.

6. Turn the JOG dial clockwise to reverse display the "GRADE" setting and turn the SHUTTLE ring clockwise.

• The background of the "PPS" display changes to red and flashes.
• Setting (default : "STD")
"SUPER", "HIGH", "STD"(STANDARD), "BASIC", "LONG"

7. Display the desired item to set and turn the SHUTTLE ring clockwise.

• The setting is confirmed and flashing stops.

8. (When setting recording intervals and recording picture quality for alarm recording • • •)
Repeat steps 4 ~ 7 and select desired settings for "A-PPS" and "A-GRADE" as well.

9. When completed with settings, turn the SHUTTLE ring counterclockwise.

• The cursor moves to the camera number directly to the left.

10. When continuing with other camera number, turn the JOG dial to move the cursor to the desired camera number and repeat steps 4 ~ 9 for settings.

11. When completed with all settings, turn the SHUTTLE ring counterclockwise or press the SET UP button.

■ ALARM REC DURATION

The recording time during alarm recording can be set.

```
<RECORD SETTINGS>
 RECORD SETTING
››ALARM REC DURATION          5S
 PRE ALARM REC               OFF
```

• Setting (default : “5S”)
“2S”, “5S”, “10S”, “15S”, “30S”, “45S”, “1M”, “2M”, “5M”, “10M”, “20M”, “30M”, “60M”, “MANUAL”

“MANUAL” : Alarm recording is continued until the grounding of the ALARM IN terminals is canceled.

1. Press the SET UP button → <SETTINGS> → Select “ALARM REC DURATION” in the <RECORD SETTINGS> screen. Display the desired setting and confirm.

2. Turn the SHUTTLE ring counterclockwise or press the SET UP button.

■ PRE ALARM REC

The pre-alarm recording can be set on/off and the recording time during pre-alarm recording can be set here.

```
<RECORD SETTINGS>
 RECORD SETTING
 ALARM REC DURATION           5S
››PRE ALARM REC               OFF
```

Setting (default : “OFF”)
“OFF”, “SHORT”, “MEDIUM”, “LONG”

➡ For details concerning pre-alarm recording time, see “Pre-alarm recording time table”, ☞ see pages 83, 84.

Ⓘ It is not possible to change the data in ALARM REC DURATION and REC MODE SETTINGS if you have selected “SHORT”, “MEDIUM”, or “LONG” in the PRE ALARM REC.

1. Press the SET UP button → <SETTINGS> → Select “PRE ALARM REC” in the <RECORD SETTINGS> screen. Display the desired setting and confirm.

2. Turn the SHUTTLE ring counterclockwise or press the SET UP button.

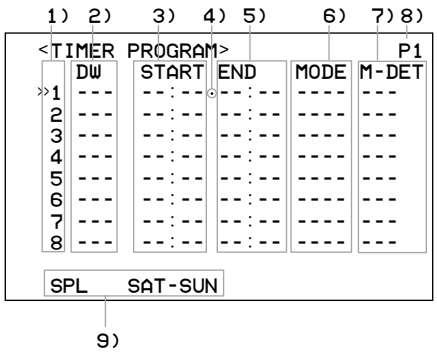
■ TIMER PROGRAM SETTINGS

Up to 3 most used operation patterns can be set in advance. By individually setting the camera, recording intervals and recording picture quality for normal recording/alarm recording to A ~ D, settings can be changed instantly by switching operations and is very convenient.

ⓘ Before recording, accurately set the date and current time (for setting the date and time, ☞ see pages 11,12).

■ TIMER PROGRAM

♦ Structure of the <TIMER PROGRAM> screen



1) PROGRAM NUMBER
Up to 8 programs can be set for a single operation.

2) DW
The day of week from “SUN” to “SAT” can be set.
“DAY” : When recording at the same time daily.
“SPL” : When recording the period specified in “9) SPL (special day of the week setting)” below.
“HOL” : When setting holidays specified in the <HOLIDAY SETTING> screen.

3) REC START TIME
The time is indicated using the 24-hour system.

ⓘ If there is an overlap in the reservation time, the program with the larger program number is given priority for recording.

4) NEXT DAY
This mark appears when recording is to be carried over to the following day.

5) REC END TIME

6) MODE
“A” ~ “D” : When recording using the camera operation type and recording intervals set in “REC MODE A” ~ “REC MODE D” of the <TIMER PROGRAM SETTINGS> screen (for details concerning REC mode settings, ☞ see pages 12-14).
“SKIP” : When temporarily skipping timer recording (the recording will not be made for the specified time frame of that program number).

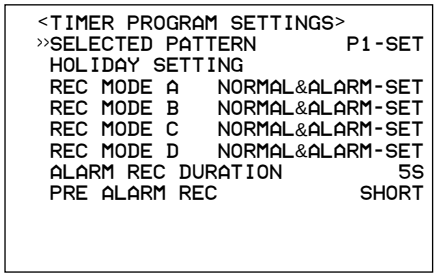
7) M-DET
The motion detection function can be set on/off.

8) Select timer setting number (P1 ~ P3) is displayed.

9) SPL (special day of the week setting)
The start day of the week and end day of the week are set. When selecting “SPL” in “DW”, the period from the start day of the week and end day of the week set here are active.

Example : Using program 1 in <TIMER PROGARAM> P2, REC MODE A will record to Wednesday ~ Saturday from 12:30 to 13:00 and “M-DET” is set to “ON”.

1. Select SET UP button → <SETTINGS> → <TIMER PROGRAM SETTINGS> screen.



2. Check to see that the cursor is to the left of <TIMER PROGRAM> and turn the SHUTTLE ring clockwise twice.

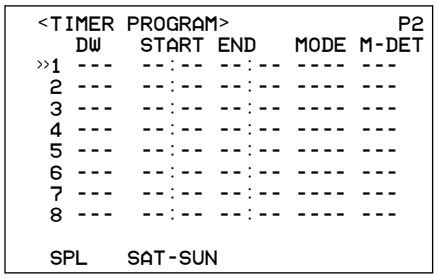
• The “P1” display reverses in color when the SHUTTLE ring is turned the first time. When the ring is turned for the second time, the background turns red and flashes.

3. Turn the JOG dial to select “P2” and turn the SHUTTLE ring clockwise.

• The setting is confirmed and flashing stops.

4. Turn the JOG dial clockwise to reverse display “SET” and turn the SHUTTLE ring clockwise.

• The <TIMER PROGRAM> screen appears.



5. Check to see that the cursor is to the left of program number “1” and turn the SHUTTLE ring clockwise twice.

• The “DW” display reverses in color when the SHUTTLE ring is turned the first time. When the ring is turned for the second time, the background turns red and flashes.

6. Turn the JOG dial to display “SPL” in “DW” and turn the SHUTTLE ring clockwise.

• The setting is confirmed and flashing stops.

➲ When selecting the wrong day of the week in error, turn the SHUTTLE ring clockwise, use the JOG dial to display the correct day of the week and turn the SHUTTLE ring clockwise again.

7. Turn the JOG dial clockwise to move the reversed display to the “hour” of the start time and turn the SHUTTLE ring clockwise.

• The background of the "hour" of the START changes to red and flashes.

8. Turn the JOG dial to display 12 in the "hour" and turn the SHUTTLE ring clockwise.

• The setting is confirmed and flashing stops.

9. Repeat steps 7 and 8 to set "30" in "minutes" of the start time and "13" in the "hour" and "00" in the "minutes" of the end time, and then confirm.

10. Turn the JOG dial clockwise to move the reversed display to the "MODE" and turn the SHUTTLE ring clockwise.

• The background of the "MODE" setting turns red and flashes.

11. Turn the JOG dial to display "A" in "MODE" and turn the SHUTTLE ring clockwise.

• The setting is confirmed and flashing stops.

12. Turn the JOG dial clockwise to move the reversed display to the "M-DET" and turn the SHUTTLE ring clockwise.

• The background of the "M-DET" setting turns red and flashes.

13. Turn the JOG dial to display "ON" in "M-DET" and turn the SHUTTLE ring clockwise.

• The setting is confirmed and flashing stops.

14. When input timer reservations in other program number, repeat steps 5 ~ 13.

15. Turn the JOG dial to select "DW" and turn the SHUTTLE ring clockwise twice.

• The "DW" display reverses in color when the SHUTTLE ring is turned the first time. When the ring is turned for the second time, the background turns red and flashes.

16. Turn the JOG dial to display "WED" in "start day and turn the SHUTTLE ring clockwise.

• The setting is confirmed and flashing stops.

17. Turn the JOG dial clockwise to move the reversed display to the end day and turn the SHUTTLE ring clockwise.

• The background of the end day setting turns red and flashes.

18. Turn the JOG dial to display "SAT" in end day and turn the SHUTTLE ring clockwise.

• The setting is confirmed and flashing stops.

```
 <TIMER PROGRAM>                P2
    DW   START END   MODE M-DET
»1 SPL   12:30 13:00 A    ON
 2 ---   --:-- --:-- ---- ---
 3 ---   --:-- --:-- ---- ---
 4 ---   --:-- --:-- ---- ---
 5 ---   --:-- --:-- ---- ---
 6 ---   --:-- --:-- ---- ---
 7 ---   --:-- --:-- ---- ---
 8 ---   --:-- --:-- ---- ---

 SPL    WED-SAT
```

19. Turn the SHUTTLE ring counterclockwise or press the SET UP button.

• Turn the SHUTTLE ring counterclockwise to return the cursor to the previous operation. Then, press the SET UP button to clear the <TIMER PROGRAM SETTINGS> screen and return to the normal screen.

ⓘ If there is an unset item with in the program (- - - display), the setting screen cannot be exited even when turning the SHUTTLE ring counterclockwise. In this case, set all unset items.

20. Press the TIMER bottun.

• The TIMER button lights.

• Timer recording starts if the current time is within the timer reservation time frame.

• The power turns off and recording will be in the standby mode if the current time is not within the timer reservation time frame.

• Timer recording/timer recording standby can be canceled by pressing the TIMER button again for more than 1 second.

➲ To delete program contents, or to exit the program without performing settings, press the WARNING RESET button during program setting.

■ HOLIDAY SETTING

Holidays throughout the year can be set in advance.

```
  <TIMER HOLIDAY SETTING>
 --/--  --/--  --/--  --/--
 --/--  --/--  --/--  --/--
 --/--  --/--  --/--  --/--
 --/--  --/--  --/--  --/--
 --/--  --/--  --/--  --/--




 DAY/MONTH
```

1. Select the SET UP button → <SETTINGS> → "HOLIDAY SETTING" in the <TIMER PROGRAM SETTINGS> screen to display and confirm desired holidays.

2. Turn the SHUTTLE dial counterclockwise or press the SET UP button.

ⓘ When setting a holiday in "HOLIDAY SETTING" and select "HOL" in the day of the week settings, the program selected with "HOL" is given priority over the other programs.

■ Recording mode settings A ~ D for normal recording/alarm recording

The camera, recording intervals and recording picture quality for normal recording/alarm recording can be set to 4 patterns of recording mode settings A ~ D (for details concerning recording mode settings, ☞ see pages 12-14, 32, 33).

1. Press the SET UP button → <SETTINGS> → Select "REC MODE A" in the <TIMER PROGRAM SETTINGS> screen and turn the SHUTTLE ring clockwise.

2. Turn the JOG dial to select either "NORMAL & ALARM" or "PRE ALARM" and confirm.

• Setting (default : "NORMAL&ALARM")

"NORMAL&ALARM" : Normal recording/alarm recording can be performed. Pre-alarm recording cannot be performed.

"PRE ALARM" :Alarm recording/pre-alarm recording can be performed. Normal recording cannot be performed.

3. Turn the JOG dial clockwise to reverse display "SET" and turn the SHUTTLE ring clockwise.

4. When continuing to with REC MODE B ~ D, repeat step 2 and 3.

■ ALARM REC DURATION

The recording time for alarm recording can be set (for details concerning setting ALARM REC DURATION, ☞ see page 33).

■ PRE ALARM REC

The recording time for pre-alarm recording can be set (for details concerning setting the pre-alarm recording time, ☞ see page 33).

```
<TIMER PROGRAM SETTINGS>
 SELECTED PATTERN        P1-SET
 HOLIDAY SETTING
 REC MODE A    NORMAL&ALARM-SET
 REC MODE B    NORMAL&ALARM-SET
 REC MODE C    NORMAL&ALARM-SET
 REC MODE D    NORMAL&ALARM-SET
 ALARM REC DURATION          5S
››PRE ALARM REC             SHORT
```

➲ For details concerning setting the pre-alarm recording time, “Pre-alarm recording time table”, ☞ see pages 83, 84.

1. Press the SET UP button → <SETTINGS> → Select “PRE ALARM REC” in the <TIMER PROGRAM SETTINGS> screen. Display the desired setting and confirm.

2. Turn the SHUTTLE ring counterclockwise or press the SET UP button.

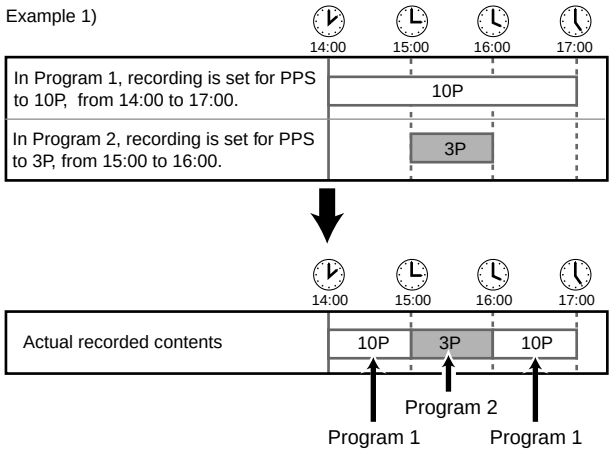
♦ Overlapping Timer settings

When Timer settings overlap, the unit will give priority to the higher-numbered program.

Example 1

• Program 1 is set for 14:00 to 17:00 with the PPS to 10P.
• Program 2 is set for 15:00 to 16:00 with the PPS to 3P.

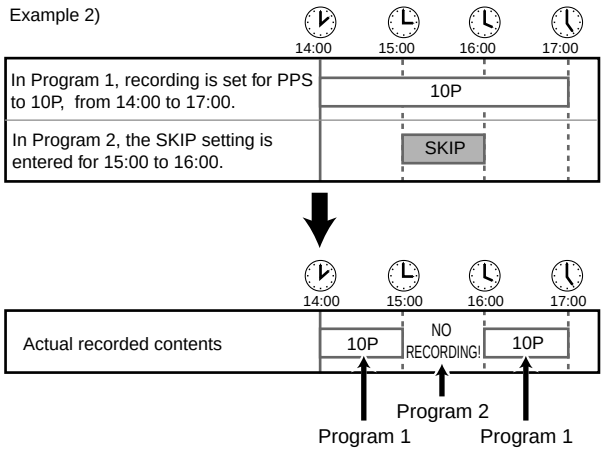
Under this condition, the unit will give priority to Program 2 for the duration of the overlapping period, from 15:00 to 16:00. The unit will operate as shown in the chart below.



Example 2

• Program 1 is set for 14:00 to 17:00 with the PPS to 10P.
• Program 2 is set for 15:00 to 16:00 with the SKIP setting.

Again, the unit will give priority to Program 2 for the duration of the overlapping period. As shown in the illustration below, the unit will activate the Skip setting from 15:00 to 16:00.



INFORMATION

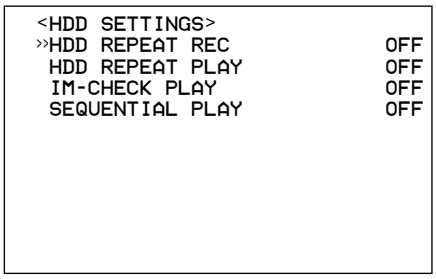
Recording will not be performed if there is an error in the setting. To prevent such errors for timer recording, this unit notifies errors using methods shown below. If there is an error in the setting, take the necessary procedures shown below.

Unit status	Description of error	Countermeasure	Page
TIMER button flashes. Series of short beeps (beep-beep-beep) will sound.	1) The date/time is not set. 2) Timer reservation setting has not been set to operate. 3) Program is currently being set.	1) Set the date/time. 2) Set the correct reservation. 3) Check the settings.	11, 12 34, 35 34, 35
Timer recording is not performed even when the timer recording time is reached.	1) "HDD REPEAT REC" in <HDD SETTING> is set to "OFF" or "STANDBY". 2) There is no HDD space left.	1), 2) Set "HDD REPEAT REC" to "ON".	37

■ HDD SETTINGS

♦ HDD REPEAT REC

The operation when HDD (Hard Disk Drive) space becomes empty during recording is set.



Setting (default : “OFF”)
“ON” : Automatically returns to the beginning of the HDD and resumes recording (by overwriting old data).

“STANDBY” : When the HDD space becomes empty, recording is stopped and the unit switches to the standby mode. Recording is resumed when the REC jack is grounded or the REC button is pressed (for details, ☞ see “SERIES RECORDINGS”, pages 48, 49). Recording is temporarily stopped if the alarm input is continuously grounded or during timer recording. Then, recording is resumed from the beginning of the HDD.

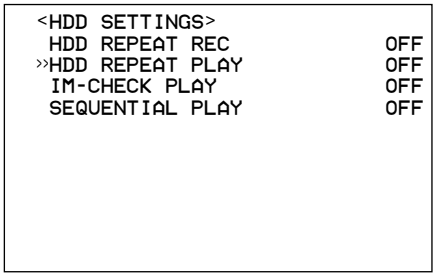
“OFF” : Recording is stopped and “REC FULL” is displayed on the screen. To resume recording, press the WARNING RESET button to cancel the “REC FULL” display and then press the REC button.

1. Press the SET UP button → <SETTINGS> → <INITIAL SET UP/INFORMATION> → Select “HDD REPAET REC” in the <HDD SETTINGS> screen. Display the desired setting and confirm.

2. Turn the SHUTTLE ring counterclockwise or press the SET UP button.

♦ HDD REPEAT PLAY

The contents recorded on the HDD (Hard Disk Drive) can be repeatedly played back.



Setting (default : “OFF”)
“ON” : After the recorded data is played back to the end, playback is resumed by automatically returning to the beginning of the recorded data.

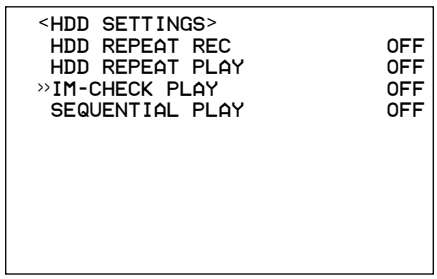
“OFF” : After the recorded data is played back to the end, playback is stopped.

1. Press the SET UP button → <SETTINGS> → <INITIAL SET UP/INFORMATION> → Select “HDD REPAET PLAY” in the <HDD SETTINGS> screen. Display the desired setting and confirm.

2. Turn the SHUTTLE ring counterclockwise or press the SETTING button.

♦ IM-CHECK PLAY

This function is to check whether alterations have been made to the recorded video or the recording date/time.



Setting (default: “OFF”)
“ON” : Alteration check is performed during playback and displays a warning at the point containing alteration.

“OFF” : Alteration check is not performed.

ⓘ This function may cause problems during recording and playback. Normally, set this function to “OFF”.

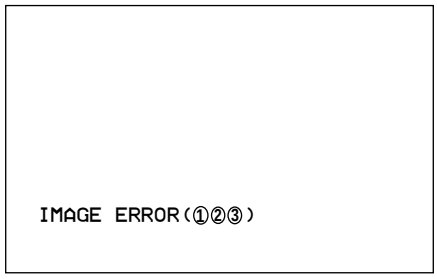
1. Press the SET UP button → <SETTINGS> → <INITIAL SET UP/INFORMATION> → Select “IM-CHECK PLAY” in the <HDD SETTINGS> screen. Display the desired setting and confirm.

2. Turn the SHUTTLE ring counterclockwise or press the SET UP button.

3. Select the device for alteration check and then start playback.

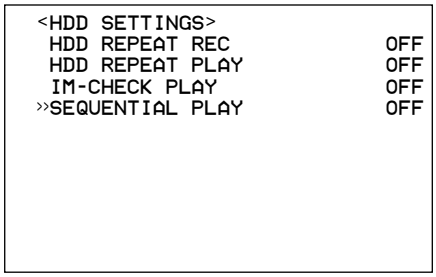
ⓘ Warning will also be displayed for parts where recorded data is damaged for some reason.

ⓘ When performing complex playback operations with the SHUTTLE ring during alteration check, the “IMAGE ERROR” warning may appear. Perform alteration check using playback or playback with changed playback intervals.



♦ SEQUENTIAL PLAY

It is possible to make backups of the video recorded with this unit to an analog video recorder, etc., while playing back the video of each camera in order using the single screen display. During single screen sequential playback, the SPLIT/SEQUENCE button will light. In addition, the playback order/time of each camera will be the order of the recorded video.



Setting (default : “OFF”)
“ON” : Plays back the video in the single screen sequential mode.

“OFF” : Does not play back the video in the single screen sequential mode.

➲ Playback is performed during camera sequential play at an interval of 0.33P. To change the playback interval, press the PLAY button (or the REVERSE button)(☞ see “Changing playback intervals, pages 50, 51).

1. Press the SET UP button → <SETTINGS> → <INITIAL SET UP/INFORMATION> → Select “SEQUENTIAL PLAY” in the <HDD SETTINGS> screen. Display the desired setting and confirm.

2. Turn the SHUTTLE ring counterclockwise or press the SET UP button.

3. Press the REC/STOP button.

4. Press one of the camera number buttons with recorded video.

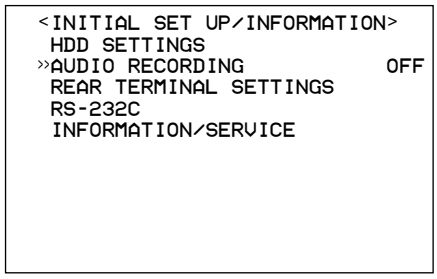
• Single screen sequential playback starts.

➲ When performing camera sequential playback for video with long recording intervals, the video of the largest camera number selected for recording will be played back the longest.

➲ Only the camera number (title) of the pressed camera number button is displayed. Other camera number (titles) will not be displayed. If display is not necessary, select “NONE” in the <CAMERA DISPLAY>.

■ AUDIO RECORDING

This unit can simultaneously record audio along with the video. When recording audio, the continuous recording time becomes shorter than when recording only video.



Setting (default : “OFF”)
“ON” : Records video and audio.

“ALARM” : When alarm signal and emergency signal are input, records video and audio.

“OFF” : Does not record audio.

1. Press the SET UP button → <SETTINGS> → Select “AUDIO RECORDING” in the <INITIAL SET UP/INFORMATION> screen. Display the desired setting and confirm.

2. Turn the SHUTTLE ring counterclockwise or press the SET UP button.

(!) When setting “AUDIO RECORDING” to “ON”, a speaker display (🔊) appears next to <ESTD TIME> in the <RECORD SETTING> and <RECORD SETTING A> ~ <RECORD SETTING D> screens. Even when setting “AUDIO RECORDING” to “ON”, audio cannot be recorded for the following settings.

(!) Audio recording cannot be performed when “PPS” of “RECORD SETTING” are all set to smaller than “0.33P” when setting normal recording.
• In this case, (🔊X) appears to the right of <ESTD TIME>.
• When the camera selection during for alarm recording is as follows : (In this case, (🔊X) will not appear.)

“ALL”, “ALARM” : “A-PPS” of all cameras set for alarm recording are set to smaller than “0.33P”.

“ALARM PLUS” : “PPS” and “A-PPS” of all cameras set for normal recording and alarm recording are set to smaller than “0.33P”.

■ REAR TERMINAL SETTINGS

♦ MODE OUT 1 ~ MODE OUT 4

The unit status can be outputted from the MODE OUT terminals on the rear. There are 4 MODE OUT terminals and each terminal can be set with the output type.

```
<REAR TERMINAL SETTINGS>
»MODE OUT 1                    OFF
 MODE OUT 2                    OFF
 MODE OUT 3                    OFF
 MODE OUT 4                    OFF
 KEY SOUND                      ON
 BUZZER                     REMAIN
 REMAIN HDD                HDD-10%
 CALL OUT SETTINGS
 EMERGENCY REC DURATION     10M
```

Setting (default : “OFF”)
“REC” : Outputs signals during recording.

“PLAY” : Outputs signals during playback.

“REMAIN” : Outputs signals when the remaining HDD space reaches the value specified in “REMAIN HDD”.

“POWER” : Outputs signals when the power of the unit turns on.

“MOTION1” ~ “MOTION4” : Outputs the camera numbers detected during motion detection recording using binary notation. (MODE OUT 1 ~ MODE OUT 4 are linked.) Furthermore, motion detection inputted the last is maintained for 2 seconds.

“ALARM” : Outputs signals during alarm recording.

“OFF” : No signal is outputted.

ⓘ Capacity warning from MODE OUT is only outputted during recording.

1. Select the SET UP button → <SETTINGS> → <INITIAL SET UP/INFORMATION> → Select “REAR TERMINAL SETTINGS” screen.

2. From the 4 MODE OUT terminals, display the desired setting for the terminal (MODE OUT 1 ~ MODE OUT 4) to output signals and then confirm.

Relation between a camera number and a MODE OUT output

	MODE OUT terminals			
	1	2	3	4
①	O	X	X	X
②	X	O	X	X
③	O	O	X	X
④	X	X	O	X
⑤	O	X	O	X
⑥	X	O	O	X
⑦	O	O	O	X
⑧	X	X	X	O
⑨	O	X	X	O

O : Signal is outputted.
X : No signal is outputted.

3. To set other terminals, repeat step 2.

4. Turn the SHUTTLE ring counterclockwise or press the SET UP button.

♦ KEY SOUND

It is possible for the unit to make button sounds when using the operation buttons on the front of the unit or when operating the JOG dial or SHUTTLE ring.

```
<REAR TERMINAL SETTINGS>
 MODE OUT 1                    OFF
 MODE OUT 2                    OFF
 MODE OUT 3                    OFF
 MODE OUT 4                    OFF
»KEY SOUND                      ON
 BUZZER                     REMAIN
 REMAIN HDD                HDD-10%
 CALL OUT SETTINGS
 EMERGENCY REC DURATION     10M
```

1. Press the SET UP button → <SETTINGS> → <INITIAL SET UP/INFORMATION> → Select “KEY SOUND” in the <RAR TERMONAL SETTINGS> screen. Display the desired setting and confirm.

2. Turn the SHUTTLE ring counterclockwise or press the SET UP button.

♦ BUZZER

It is possible for a buzzer to sound when the remaining HDD space reaches the value set in “REMAIN HDD” of the <REAR TERMINAL SETTINGS> screen. Other than the above, it is possible to set the buzzer to sound when staring alarm recording or emergency recording, or when a warning is displayed.

```
<REAR TERMINAL SETTINGS>
 MODE OUT 1                    OFF
 MODE OUT 2                    OFF
 MODE OUT 3                    OFF
 MODE OUT 4                    OFF
 KEY SOUND                      ON
»BUZZER                     REMAIN
 REMAIN HDD                HDD-10%
 CALL OUT SETTINGS
 EMERGENCY REC DURATION     10M
```

To sound a buzzer only when reaching a specified value :

1) Select “REMAIN” for “BUZZER” in the <REAR TERMINAL SETTINGS> screen.

2) Set the remaining capacity in “REMAIN HDD” of the <REAR TERMINAL SETTINGS> screen.

To sound a buzzer when reaching the set remaining capacity or when a warning is displayed :

1) Select “WARNING” for “BUZZER” in the <REAR TERMINAL SETTINGS> screen.

2) Set the remaining HDD capacity (HDD REMAIN WARNING) in “CALL OUT SETTINGS” of the <REAR TERMINAL SETTINGS> screen.

Setting (default : “REMAIN”)
“REMAIN”, “WARNING”, “ALARM”, “OFF”

SETTING / BUZZER	REMAIN	WARNING	ALARM	OFF
When reaching the remaining capacity set in “REMAIN HDD”	ON	OFF	OFF	OFF
When a failure occurs and a warning is displayed	OFF	ON	OFF	OFF
When an alarm recording or emergency recording is started	OFF	OFF	ON	OFF

1. Press the SET UP button → <SETTINGS> → <INITIAL SET UP/INFORMATION> → Select “BUZZER” in the <RAR TERMONAL SETTINGS> screen. Display the desired setting and confirm.

2. Turn the SHUTTLE ring counterclockwise or press the SET UP button.

♦ REMAIN HDD

A warning indicating that the remaining HDD capacity has become low during recording is outputted. The remaining capacity for this warning is set here.

```
<REAR TERMINAL SETTINGS>
 MODE OUT 1                  OFF
 MODE OUT 2                  OFF
 MODE OUT 3                  OFF
 MODE OUT 4                  OFF
 KEY SOUND                    ON
 BUZZER                   REMAIN
»REMAIN HDD               HDD-10%
 CALL OUT SETTINGS
 EMERGENCY REC DURATION      10M
```

➲ A warning is outputted using the following methods when the remaining capacity becomes low during recording.
• The HDD USAGE display flashes when “3” is set to “DISPLAY MODE” in the <TIME DATE DISPLAY> screen.
• A buzzer will sound when “REMAIN” is set to “BUZZER” in the <REAR TERMINAL SETTINGS> screen.

Setting of “DEVICE” (default : “HDD”)
“HDD” : Displays a warning of low HDD capacity.

“OFF” : Does not display warning of low HDD capacity.

Setting of “REMAIN HDD” (default : “10%”)
“2%”, “4%”, “6%”, “8%”, “10%”, “15%”,“20%”, “30%”, “40%”, “50%”

1. Select the SET UP button → <SETTINGS> → <INITIAL SET UP/INFORMATION> → “REMAIN HDD” in the <REAR TERMINAL SETTINGS> screen and turn the SHUTTLE ring clockwise twice.
• The “PPS” setting display reverses in color when the SHUTTLE ring is turned the first time. When the ring is turned for the second time, the background turns red and flashes.

2. Turn the JOG dial to display the desired device and turn the SHUTTLE ring clockwise.
• The setting is confirmed and flashing stops.

3. Turn the JOG dial clockwise to move the reversed display to the REMAIN HDD value and turn the SHUTTLE ring clockwise.
• The background of the REMAIN HDD value turns red and flashes.

4. Turn the JOG dial to display the desired capacity and turn the SHUTTLE ring clockwise.
• The setting is confirmed and flashing stops.

5. Turn the SHUTTLE ring counterclockwise or press the SET UP button.

♦ CALL OUT SETTINGS

The CALL OUT setting is a setting to notify to the outside warning signals outputted by this device by outputting the signals from the CALL OUT terminal on the rear.

• HDD REMAIN

When reaching the set remaining HDD capacity, a signal is outputted from the CALL OUT terminal and “CAPACITY REMAIN WARNING” is displayed.

```
<CALL OUT SETTINGS>
»HDD REMAIN                  OFF
 HDD FULL                    OFF
```

Setting (default : “OFF”)
“2%”, “4%”, “6%”, “8%”, “10%”, “15%”,“20%”, “30%”, “40%”, “50%”, “OFF”

1. Press the SET UP button → <SETTINGS> → <INITIAL SET UP/INFORMATION> → <REAR TERMONAL SETTINGS> → Select “HDD REMAIN” in the <CALL OUT SETTINGS> screen. Display the desired setting and confirm.

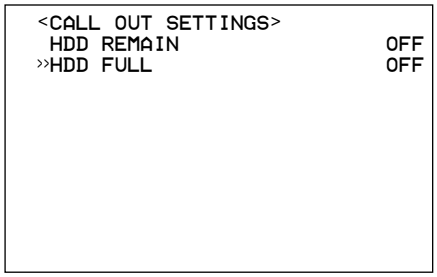
2. Turn the SHUTTLE ring counterclockwise or press the SET UP button.

➲ By pressing the WARNING RESET button, the HDD capacity warning from the CALL OUT terminal can be canceled.

INFORMATION

For the relationship of the warning display and CALL OUT signal output, ☞ see page 87. Although the warning will be displayed regardless if the output item for the CALL OUT signal is set to “FIXED”, the condition to output CALL OUT signals can be added when the output is set to “SELECT”. For example, the buzzer can be set to sound when reaching a value set in “HDD REMAIN WARNING” of the <CALL OUT SETTINGS> screen if “BUZZER” in the <REAR TERMINAL SETTINGS> screen is set to “WARNING”.

• HDD FULL
When the recordable HDD space becomes empty, a signal is outputted from the CALL OUT terminal and a “REC FULL” warning is displayed.



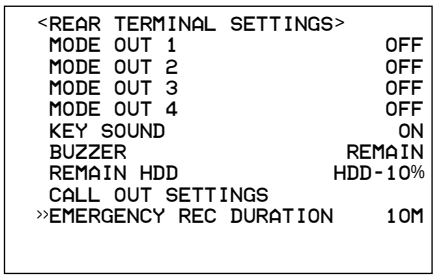
Setting of device (default : “OFF”)
“ON” : Signal is outputted when the recording capacity becomes empty.

“OFF” : No signal is outputted when the recording capacity becomes empty.

1. Press the SET UP button → <SETTINGS> → <INITIAL SET UP/INFORMATION> → <REAR TERMONAL SETTINGS> → Select “HDD FULL” in the <CALL OUT SETTINGS> screen. Display the desired setting and confirm.

2. Turn the SHUTTLE ring counterclockwise or press the SET UP button.

♦ EMERGENCY REC DURATION
The recording time for alarm recording can be set.



➲ For details concerning setting EMERGENCY RECORDINGS, ☞ see page 48.

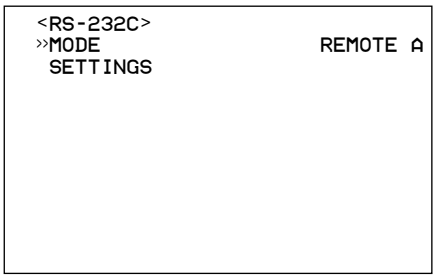
Setting (default : “10M”)
“1M”, “2M”, “5M”, “10M”, “20M”, “30M”, “60M”

1. Press the SET UP button → <SETTINGS> → <INITIAL SET UP/INFORMATION> → Select “EMERGENCY REC DURATION” in the <REAR TERMONAL SETTINGS> screen. Display the desired setting and confirm.

2. Turn the SHUTTLE ring counterclockwise or press the SET UP button.

■ RS-232C
Settings for the communication device connected to this unit is set.

♦ MODE
This unit can be remote controlled from a PC connected to the RS-232C terminal. Comments can also be inputted from a PC for recording of comments along with the video (☞ see pages 60-81).



Setting (default : “REMOTE A”)
“REMOTE A” : This unit can be controlled from a PC and status condition change information is returned from the unit.

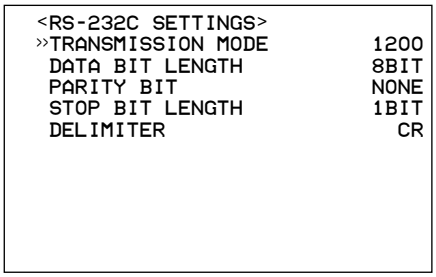
“REMOTE B” : This unit can be controlled from a PC and status condition change information is not returned from the unit.

“OFF” : This unit cannot be controlled from a PC.

1. Press the SET UP button → <SETTINGS> → <INITIAL SET UP/INFORMATION> → Select “MODE” in the <RS-232C> screen. Display the desired setting and confirm.

2. Turn the SHUTTLE ring counterclockwise or press the SET UP button.

♦ RS-232C SETTINGS
RS-232C settings can be made when setting “MODE” above to “REMOTE A” or “REMOTE B”.



ⓘ Perform settings so that the settings are the same with the connecting PC.

Setting of “TRANSMISSION MODE” (default : “1200”)
“1200”, “2400”, “4800”, “9600”, “19200”

Setting of “DATA BIT LENGTH” (default : “8BIT”)
“8BIT”, “7BIT”

Setting of “PARITY BIT” (default : “NONE”)
“NONE”, “ODD”, “EVEN”

Setting of “STOP BIT LENGTH” (default : “1BIT”)
“1BIT”, “2BIT”

Setting of “DELIMITER: (default : “CR”)
“CR”, “CR•LF”

1. Set “RS-232C MODE” to “REMOTE A” or “REMOTE B”.

2. Select “SETTINGS” and turn the SHUTTLE ring clockwise.
• The <SETTINGS> screen appears.

3. Select the setting to change and turn the SHUTTLE ring clockwise.
• The background of the setting turns red and flashes.

4. Display the desired sub item and turn the SHUTTLE ring clockwise.

• The setting is confirmed and flashing stops.

5. To make additional changes, repeat steps 3 and 4.

6. Turn the SHUTTLE ring counterclockwise or press the SET UP button.

■ INFORMATION/SERVICE

In the <INFORMATION/SERVICE> screen, the log list/device list during power failures, etc., can be checked and the menus can be reset. At the bottom of the menu screen, the accumulated operation time since the beginning of usage is displayed.

♦ HDD/CFC INFORMATION

The recorded range of the HDD or Compact Flash Card inserted in the unit can be checked.

1. (To check the recorded range of the HDD • • •)
Press the SET UP button → <SETTINGS> → <INITIAL SET UP/INFORMATION> → Select "HDD INFORMATION" in the <INFORMATION/SERVICE> screen. Display the desired setting and confirm.

• The <INFORMATION> screen appears.

```
<INFORMATION>
HDD
   MASTER HDD(80GB)
   SLAVE  NONE

   START  02-02-2002 00:00:00
   END    04-04-2002 12:30:15
```

2. (To check the recorded range of the Compact Flash inserted in the unit or to check the menu information recording status • • •)
Select the SET UP button → <SETTINGS> → <INITIAL SET UP/INFORMATION> → Select "CFC INFORMATION" in the <INFORMATION/SERVICE> screen and turn the SHUTTLE ring clockwise.

• The <INFORMATION> screen of the Compact Flash inserted in the unit is displayed.

```
<INFORMATION>
CFC
   CAPACITY  64MB
   MENU INFORMATION


   START  02-02-2002 00:00:00
   END    02-02-2002 00:00:10
```

3. Turn the SHUTTLE ring counterclockwise or press the SET UP button.

♦ WARNING LOG LIST

The WARNING LOG LIST enables to check the number of failure, date, time and type of failure during power failures, etc.

```
<INFORMATION/SERVICE>
 HDD INFORMATION
 CFC INFORMATION

»WARNING LOG LIST
 SETTING DATA INITIALIZE

 HDD DATA CLEAR
 CFC DATA CLEAR


 ELAPSED TIME        10H
```

1. Press the SET UP button → <SETTINGS> → <INITIAL SET UP/INFORMATION> → Select "WARNING LOG LIST" in the <REAR TERMONAL SETTINGS> screen. Display the desired setting and confirm.

• The <WARNING LOG LIST> screen appears.
• The WARNING LOG LIST can display up to 1000 items. When the number of items exceed this limit, the latest 1000 items are displayed.
• ▲ button/turn JOG dial counterclockwise : Selection moves to the next number.
• ▼ button/turn JOG dial clockwise : Selection moves to the previous number.
• ▶ button : Displays the page with date prior to the date of the currently opened page.
• ◀ button : Displays the page with date newer than the date of the currently opened page.
• To reset the WARNING LOG LIST, press the WARNING RESET button for 5 seconds.

When a failure occurs while the <WARNING LOG LIST> is being displayed, exit the screen and display the screen again. A new item will be added to the list.

Failures displayed in the WARNING LOG LIST (☞ see page 87).

```
  <WARNING LOG LIST>
 NO   DATE     TIME     WARNING
»0001 02-02-02 10:00:00 ALM ON
```

"P-LOSS" : Power failure.

"SYS RST" : Reset button was pressed and the unit was reset.

"HLD ON" : ALARM HOLD button was pressed and the unit was put on hold.

"HLD OFF" : ALARM HOLD button was pressed and the alarm hold was canceled.

2. Turn the SHUTTLE ring counterclockwise or press the SET UP button.

♦ SETTING DATA INITIALIZE

Menu screen settings is reset.

1. Press the SET UP button → <SETTINGS> → <INITIAL SET UP/INFORMATION> → Select "SETTING DATA INITIALIZE" in the <INFORMATION/SERVICE> screen. Display the desired setting and confirm.

• The <SETTING DATA INITIALIZE> screen appears.
• When not resetting menu screen settings, turn the SHUTTLE ring counterclockwise.

```
  <SETTING DATA INITIALIZE>

 »EXECUTE




 SHUTTLE>> : EXECUTE , << : CANCEL
```

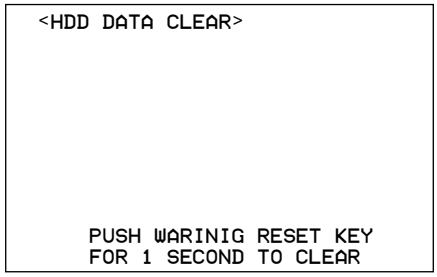
2. Turn to SHUTTLE ring clockwise.
- **The menu screen settings are reset.**

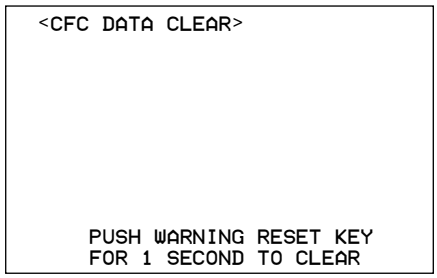
3. Turn the SHUTTLE ring counterclockwise or press the SET UP button.

♦ HDD DATA CLEAR/CFC DATA CLEAR

Data recorded on the HDD (Hard Disk Drive) or CFC (Compact Flash Card) is erased.

1. Press the SET UP button → <SETTINGS> → <INITIAL SET UP/INFORMATION> → Select "HDD DATA CLEAR" or "CFC DATA CLEAR" in the <INFORMATION/SERVICE> screen. Display the desired setting and confirm.
- **"PUSH WARNING RESET KEY FOR 1 SECOND TO CLEAR" appears on the bottom of the screen.**
- **To cancel the deletion, turn the SHUTTLE ring counterclockwise.**





2. Press the WARNING RESET button.
- **"CLEARING ..." appears on the screen.**

ⓘ Date cannot be erased when recording/copying.

3. Turn the SHUTTLE ring counterclockwise or press the SET UP button.

■ QUICK SETTINGS

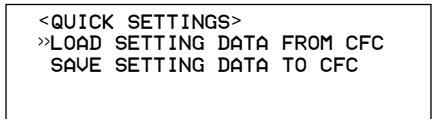
Menu settings set in advance can be loaded to from a Compact Flash Card to this unit. It is also possible to copy menu setting of this unit to a Compact Flash Card.

ⓘ During execution of menu quick setting, other operations are not accepted.

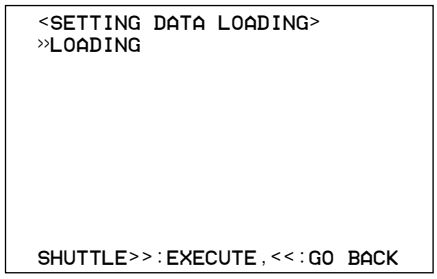
♦ To update menu settings of this unit

1. Insert a Compact Flash Card recorded with menu settings into the Compact Flash slot of this unit.

2. Select <QUICK SETTING> in <SETTINGS> screen and turn the SHUTTLE ring clockwise.
- **The <QUICK SETTING> screen appears.**



3. Select "LOAD SETTING DATA FROM CFC" and turn the SHUTTLE ring clockwise.
- **The <SETTING DATA LOADING> screen appears.**
- **To cancel the update of menu settings, turn the SHUTTLE ring counterclockwise.**



4. Turn the SHUTTLE ring clockwise.
- **The menu settings of this unit is updated and <<COMPLETED>> appears on the screen.**

➲ Turn off POWER to finalize updated menu settings.

5. (Finalizing update menu settings • • •)
Turn the SHUTTLE ring counterclockwise three times, or return to normal screen by pressing the SET UP button.

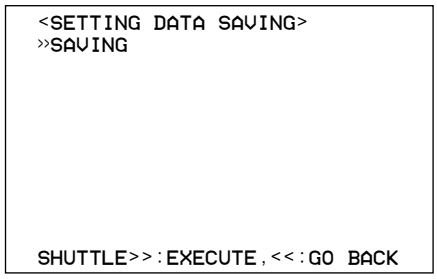
6. Press POWER button to turn the unit off, then it once more to turn th unit back on.
- **The setting is confirmed.**

♦ To save menu settings of this unit to a Compact Flash Card

1. Insert a Compact Flash Card into the Compact Flash slot of this unit.

2. Select <QUICK SETTING> in <SETTINGS> screen and turn the SHUTTLE ring clockwise.
- **The <QUICK SETTING> screen appears.**

3. Select "SAVE SETTING DATA TO CFC" and turn the SHUTTLE ring clockwise.
- **The <SETTING DATA SAVING> screen appears.**
- **When not saving the menu settings to the Compact Flash Card, turn the SHUTTLE ring counterclockwise.**



4. Turn the SHUTTLE ring clockwise.
- **The menu settings are overwritten in the Compact Flash Card and <<COMPLETED>> appears on the screen.**

5. Turn the SHUTTLE ring counterclockwise or press the SET UP button.

■ Operation example 1

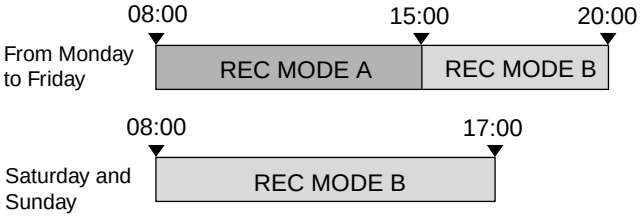
This example sets different number of cameras to REC MODE A and B for normal recording to switch cameras depending on the time period and day of week.

➲ For loading of camera video, ☞ see “Relation of recording operation to the number of cameras and recording interval settings”, page 88.

< Operation >

• REC MODE A (normal recording with all cameras) is set to Monday ~ Friday from 08:00 to 15:00 and REC MODE B (normal recording with camera number “ ① ”, “ ② ”, “ ③ ”, “ ⑦ ”, “ ⑧ ” and “ ⑨ ”) is set to 15:00 ~ 20:00.

• On weekends, REC MODE B (normal recording with camera number “ ① ”, “ ② ”, “ ③ ”, “ ⑦ ”, “ ⑧ ” and “ ⑨ ”) is set to 08:00 ~ 17:00.



< Setting >

1) <CAMERA TITLE/MEMO SETTING> screen setting (☞ see pages 24, 25).

- **All cameras (“ ① ” ~ “ ⑨ ”).**
  - **Input title.**

```
<CAMERA TITLE/MENO SETTING>
»①      ENTREAMCE·····
 ②      ATM1··········
 ③      ATM2··········
 ④      COUNTER1·····
 ⑤      COUNTER2·····
 ⑥      COUNTER3·····
 ⑦      VAULT·········
 ⑧      EXIT··········
 ⑨      PARKING·····
 MEMO   ··············
>SHUTTLE>>:CHARACTERS
```

2) <INITIAL SET UP/INFORMATION> screen setting.

- **AUDIO RECORDING : “OFF” (☞ see page 38).**

```
<INITIAL SET UP/INFORMATION>
 HDD SETTINGS
»AUDIO RECORDING            OFF
 REAR TERMINAL SETTINGS
 RS-232C
 INFORMATION/SERVICE
```

3) <HDD SETTINGS> screen setting (☞ see pages 37, 38).

- **HDD REPEAT REC : “ON”.**

```
<HDD SETTINGS>
»HDD REPEAT REC              ON
 HDD REPEAT PLAY            OFF
 IM-CHECK PLAY              OFF
 SEQUENTIAL PLAY            OFF
```

4) <TIMER PROGRAM SETTINGS> screen setting (☞ see pages 35, 36).

- **SELECTED PATTERN : “P1”.**
- **REC MODE A : “NORMAL&ALARM”.**
- **REC MODE B : “NORMAL&ALARM”.**

```
<TIMER PROGRAM SETTINGS>
 SELECTED PATTERN        P1-SET
 HOLIDAY SETTING
 REC MODE A    NORMAL&ALARM-SET
»REC MODE B    NORMAL&ALARM-SET
 REC MODE C    NORMAL&ALARM-SET
 REC MODE D    NORMAL&ALARM-SET
 ALARM REC DURATION          5S
 PRE ALARM REC            SHORT
```

5) <REC MODE A> screen setting (☞ see pages 35, 36).

- **All cameras (“ ① ” ~ “ ⑨ ”).**
  - **PPS, GRADE : Set desired interval and picture quality for each camera.**
  - **A-PPS : “- - - - -”.**

```
<REC MODE A>          ALARM PLUS
NO.PPS     GRADE A-PPS   A-GRADE
»① 1.39F   STD   -----   STD
 ② 1.39F   STD   -----   STD
 ③ 1.39F   STD   -----   STD
 ④ 1.39F   STD   -----   STD
 ⑤ 1.39F   STD   -----   STD
 ⑥ 1.39F   STD   -----   STD
 ⑦ 1.39F   STD   -----   STD
 ⑧ 1.39F   STD   -----   STD
 ⑨ 1.39F   STD   -----   STD
<ESTD TIME>              □□□H□□M
```

6) <REC MODE B> screen setting (☞ see pages 35, 36).

- **Camera number “ ① ”, “ ② ”, “ ③ ”, “ ⑦ ”, “ ⑧ ” and “ ⑨ ” only.**
  - **PPS, GRADE : Set desired interval and picture quality for each camera.**
  - **A-PPS : “- - - - -”.**
- **Other camera**
  - **PPS, A-PPS : “- - - - -”.**

```
<REC MODE B>          ALARM PLUS
NO.PPS     GRADE A-PPS   A-GRADE
»① 2.08F   SUPER -----   STD
 ② 2.08F   SUPER -----   STD
 ③ 2.08F   SUPER -----   STD
 ④ -----   STD   -----   STD
 ⑤ -----   STD   -----   STD
 ⑥ -----   STD   -----   STD
 ⑦ 2.08F   STD   -----   STD
 ⑧ 2.08F   SUPER -----   STD
 ⑨ 2.08F   SUPER -----   STD
<ESTD TIME>              □□□H□□M
```

7) <TIMER PROGRAM> screen setting (☞ see pages 34, 35).

- **SPL : “MON - FRI”.**
- **PROGRAM NO.1 : “SPL”, “08:00”, “15:00”, “A”, “OFF”.**
- **PROGRAM NO.2 : “SPL”, “15:00”, “20:00”, “B”, “OFF”.**
- **PROGRAM NO.3 : “SAT”, “08:00”, “17:00”, “B”, “OFF”.**
- **PROGRAM NO.4 : “SUN”, “08:00”, “17:00”, “B”, “OFF”.**

```
<TIMER PROGRAM>                P1
   DW   START END   MODE M-DET
»1 SPL  08:00 15:00 A    OFF
 2 SPL  15:00 20:00 B    OFF
 3 SAT  08:00 17:00 B    OFF
 4 SUN  08:00 17:00 B    OFF
 5 ---  --:-- --:-- ---- ---
 6 ---  --:-- --:-- ---- ---
 7 ---  --:-- --:-- ---- ---
 8 ---  --:-- --:-- ---- ---

 SPL   MON-FRI
```

When completed with all settings above and after clearing the menu screen, press the TIMER button. The unit will switch to the timer mode.

■ Operation example 2

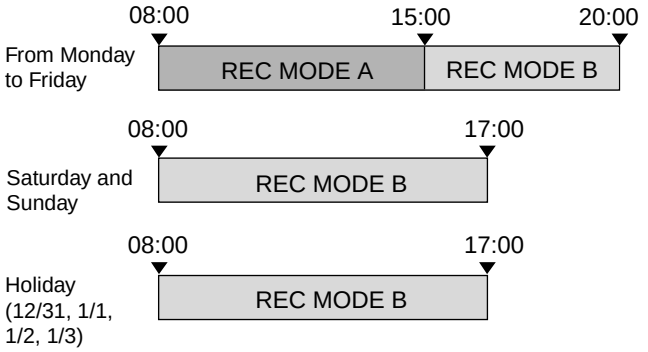
This example uses the holiday setting.

< Operation >

• REC MODE A (normal recording with all cameras) is set to Monday ~ Friday from 08:00 to 15:00 and REC MODE B (normal recording with camera number " ① ", " ② ", " ③ ", " ⑦ ", " ⑧ " and " ⑨ ") is set to 15:00 ~ 20:00.

• On weekends, REC MODE B (normal recording with camera number " ① ", " ② ", " ③ ", " ⑦ ", " ⑧ " and " ⑨ ") is set to 08:00 ~ 17:00.

• 12/31, 1/1, 1/2 and 1/3 are set as holidays and REC MODE B is set to 08:00 ~ 17:00.



< Setting >

1) <CAMERA TITLE/MEMO SETTING> screen setting (☞ see pages 24, 25).

- **All cameras (" ① " ~ " ⑨ ").**
  - **Input title.**

```
<CAMERA TITLE/MENO SETTING>
»①      ENTREAMCE·····
 ②      ATM1·····
 ③      ATM2·····
 ④      COUNTER1·····
 ⑤      COUNTER2·····
 ⑥      COUNTER3·····
 ⑦      VAULT·····
 ⑧      EXIT·····
 ⑨      PARKING·····
 MEMO   ·····
>SHUTTLE>>:CHARACTERS
```

2) <INITIAL SET UP/INFORMATION> screen setting.

- **AUDIO RECORDING : "OFF" (☞ see page 38).**

```
<INITIAL SET UP/INFORMATION>
 HDD SETTINGS
»AUDIO RECORDING            OFF
 REAR TERMINAL SETTINGS
 RS-232C
 INFORMATION/SERVICE
```

3) <HDD SETTINGS> screen setting (☞ see pages 37, 38).

- **HDD REPEAT REC : "ON".**

```
<HDD SETTINGS>
»HDD REPEAT REC              ON
 HDD REPEAT PLAY            OFF
 IM-CHECK PLAY              OFF
 SEQUENTIAL PLAY            OFF
```

4) <TIMER PROGRAM SETTINGS> screen setting (☞ see pages 35, 36).

- **SELECTED PATTERN : "P2".**
- **REC MODE A : "NORMAL&ALARM".**
- **REC MODE B : "NORMAL&ALARM".**
- **HOLIDAY SETTING : 12/31, 01/01, 01/02, 01/03.**

```
<TIMER PROGRAM SETTINGS>
 SELECTED PATTERN        P2-SET
 HOLIDAY SETTING
 REC MODE A    NORMAL&ALARM-SET
 REC MODE B    NORMAL&ALARM-SET
»REC MODE C    NORMAL&ALARM-SET
 REC MODE D    NORMAL&ALARM-SET
 ALARM REC DURATION          5S
 PRE ALARM REC            SHORT
```

```
<HOLIDAY SETTING>
12/31  01/01  01/02  01/03
--/--  --/--  --/--  --/--
--/--  --/--  --/--  --/--
--/--  --/--  --/--  --/--
--/--  --/--  --/--  --/--

DAY/MONTH
```

5) <REC MODE A> screen setting (☞ see pages 35, 36).

- **All cameras (" ① " ~ " ⑨ ").**
  - **PPS, GRADE : Set desired interval and picture quality for each camera.**
  - **A-PPS : "-----".**

```
<REC MODE A>        ALARM PLUS
NO.PPS    GRADE A-PPS   A-GRADE
»① 1.39F  STD   -----   STD
 ② 1.39F  STD   -----   STD
 ③ 1.39F  STD   -----   STD
 ④ 1.39F  STD   -----   STD
 ⑤ 1.39F  STD   -----   STD
 ⑥ 1.39F  STD   -----   STD
 ⑦ 1.39F  STD   -----   STD
 ⑧ 1.39F  STD   -----   STD
 ⑨ 1.39F  STD   -----   STD
<ESTD TIME>             □□□H□□M
```

6) <REC MODE B> screen setting (☞ see pages 35, 36).

- **Camera number " ① ", " ② ", " ③ ", " ⑦ ", " ⑧ " and " ⑨ " only.**
  - **PPS, GRADE : Set desired interval and picture quality for each camera.**
  - **A-PPS : "-----".**
- **Other camera.**
  - **PPS, A-PPS : "-----".**

```
<REC MODE B>        ALARM PLUS
NO.PPS    GRADE A-PPS   A-GRADE
»① 2.08F  SUPER -----   STD
 ② 2.08F  SUPER -----   STD
 ③ 2.08F  SUPER -----   STD
 ④ -----  STD   -----   STD
 ⑤ -----  STD   -----   STD
 ⑥ -----  STD   -----   STD
 ⑦ 2.08F  STD   -----   STD
 ⑧ 2.08F  SUPER -----   STD
 ⑨ 2.08F  SUPER -----   STD
<ESTD TIME>             □□□H□□M
```

7) <TIMER PROGRAM> screen setting (☞ see pages 34, 35).

- **SPL : “MON - FRI”.**
- **PROGRAM NO.1 : “SPL”, “08:00”, “15:00”, “A”, “OFF”.**
- **PROGRAM NO.2 : “SPL”, “15:00”, “20:00”, “B”, “OFF”.**
- **PROGRAM NO.3 : “SAT”, “08:00”, “17:00”, “B”, “OFF”.**
- **PROGRAM NO.4 : “SUN”, “08:00”, “17:00”, “B”, “OFF”.**
- **PROGRAM NO.5 : “HOL”, “08:00”, “17:00”, “B”, “OFF”.**

```
<TIMER PROGRAM>                P1
   DW   START END   MODE M-DET
»1 SPL  08:00 15:00 A    OFF
 2 SPL  15:00 20:00 B    OFF
 3 SAT  08:00 17:00 B    OFF
 4 SUN  08:00 17:00 B    OFF
 5 HOL  08:00 17:00 B    OFF
 6 ---  --:-- --:-- ---- ---
 7 ---  --:-- --:-- ---- ---
 8 ---  --:-- --:-- ---- ---

 SPL   MON-FRI
```

When completed with all settings above and after clearing the menu screen, press the TIMER button. The unit will switch to the timer mode.

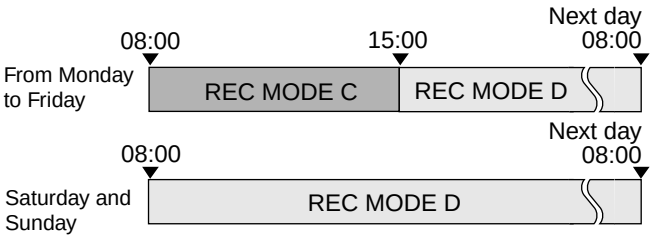
■ Operation example 3

This example uses a combination of normal recording, pre-alarm recording, alarm recording and emergency recording.

< Operation >

• REC MODE C (pre-alarm recording, alarm recording and emergency recording with all cameras) is set to Monday ~ Friday from 08:00 to 15:00 and REC MODE D (pre-alarm recording, alarm recording and emergency recording with camera number “ ① ”, “ ② ”, “ ③ ”, “ ⑦ ”, “ ⑧ ” and “ ⑨ ”) is set to 15:00 ~ 08:00 of the following day.

• On weekends, REC MODE D (pre-alarm recording, alarm recording and emergency recording with camera number “ ① ”, “ ② ”, “ ③ ”, “ ⑦ ”, “ ⑧ ” and “ ⑨ ”) is set to 08:00 ~ 08:00 of the following day.



< Setting >

1) Set 1) ~ 3) of “Operation example 1” above.

2) <REAR TREMINAL SETTNIGS> screen setting (☞ see page 41).

- **EMERGENCY REC DURATION : “20M”.**

```
<REAR TERMINAL SETTINGS>
 MODE OUT 1                  OFF
 MODE OUT 2                  OFF
 MODE OUT 3                  OFF
 MODE OUT 4                  OFF
 KEY SOUND                    ON
 BUZZER                   REMAIN
 REMAIN HDD              HDD-10%
 CALL OUT SETTINGS
»EMERGENCY REC DURATION     20M
```

3) Set each item in the <MOTION DETECTION SETTINGS> screen for all cameras (☞ see pages 29-31).

- **SELECTION CAMERA NUMBER, MOTION DETECTION : Set operation to “ON” or “OFF” for all cameras.**

```
<MOTION DETECTION SETTINGS>
»SELECTION CAMERA NUMBER      ①
 MOTION DETECTION            OFF
 DETECTION MASK SETTING
 SENSITIVITY       HIGH••<<<LOW
 MOTION THRESHOLD              1
 TEST MODE
```

4) <TIMER PROGRAM SETTINGS> screen setting (☞ see pages 35, 36).

- **SELECTED PATTERN : “P3”.**
- **REC MODE C : “PRE ALARM”.**
- **REC MODE D : “PRE ALARM”.**
- **ALARM REC DURATION : “5M”.**
- **PRE ALARM REC : “MEDIUM”.**

```
<TIMER PROGRAM SETTINGS>
 SELECTED PATTERN         P3-SET
 HOLIDAY SETTING
 REC MODE A    NORMAL&ALARM-SET
 REC MODE B    NORMAL&ALARM-SET
 REC MODE C       PRE ALARM-SET
 REC MODE D       PRE ALARM-SET
 ALARM REC DURATION          5M
»PRE ALARM REC             MEDIUM
```

5) <REC MODE C> screen setting (☞ see pages 35, 36).

- **Camera selectoin during alarm recording : “ALL”.**
- **All cameras (“ ① ” ~ “ ⑨ ”)**
  - **PPS, GRADE, A-PPS, A-GRADE : Set desired interval and picture quality for each camera.**

```
<REC MODE C>         ALL
NO.PPS    GRADE A-PPS   A-GRADE
»① 1.39F  STD   1.39F  HIGH
 ② 1.39F  STD   1.39F  HIGH
 ③ 1.39F  STD   1.39F  HIGH
 ④ 1.39F  STD   1.39F  HIGH
 ⑤ 1.39F  STD   1.39F  HIGH
 ⑥ 1.39F  STD   1.39F  HIGH
 ⑦ 1.39F  STD   1.39F  HIGH
 ⑧ 1.39F  STD   1.39F  HIGH
 ⑨ 1.39F  STD   1.39F  HIGH
<ESTD TIME>              □□□H□□M
```

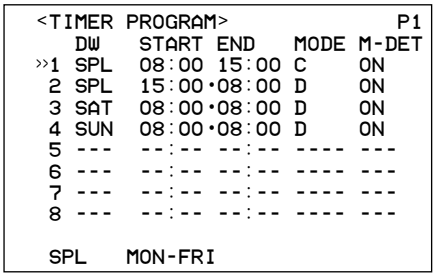
6) <REC MODE D> screen setting (☞ see pages 35, 36).

- **Camera selectoin during alarm recording : “ALL”.**
- **Camera number “ ① ”, “ ② ”, “ ③ ”, “ ⑦ ”, “ ⑧ ” and “ ⑨ ” only.**
  - **PPS, GRADE, A-PPS, A-GRADE : Set desired interval and picture quality for each camera.**
- **Other camera.**
  - **PPS, A-PPS : “-----”.**

```
<RECORD SETTING D>   ALL
NO.PPS    GRADE A-PPS   A-GRADE
»① 2.08F  SUPER 4.17F  HIGH
 ② 2.08F  SUPER 4.17F  HIGH
 ③ 2.08F  SUPER 4.17F  HIGH
 ④ -----  STD   -----  STD
 ⑤ -----  STD   -----  STD
 ⑥ -----  STD   -----  STD
 ⑦ 2.08F  STD   4.17F  HIGH
 ⑧ 2.08F  SUPER 4.17F  HIGH
 ⑨ 2.08F  SUPER 4.17F  HIGH
<ESTD TIME>              □□□H□□M
```

7) <TIMER PROGRAM> screen setting (☞ see pages 34, 35).

- **SPL : “MON - FRI”.**
- **PROGRAM NO.1 : “SPL”, “08:00”, “15:00”, “C”, “ON”.**
- **PROGRAM NO.2 : “SPL”, “15:00”, “08:00”, “D”, “ON”.**
- **PROGRAM NO.3 : “SAT”, “08:00”, “08:00”, “D”, “ON”.**
- **PROGRAM NO.4 : “SUN”, “08:00”, “08:00”, “D”, “ON”.**

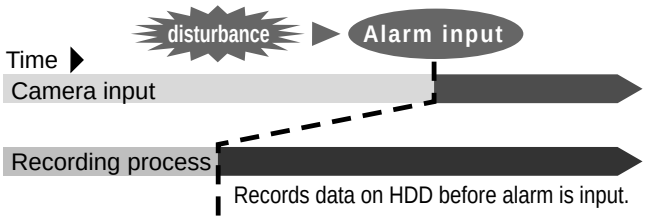


When completed with all settings above and after clearing the menu screen, press the TIMER button. The unit will switch to the timer mode.

■ PRE ALARM RECORDINGS

During alarm recording, recording can be started a few seconds before the ALARM IN terminal is grounded or motion is detected.

➲ For details concerning pre-alarm recording settings, see “Normal recording/alarm recording mode settings A ~ D”, ☞ see page 35.



Pre-alarm recording :

1) The PRE-ALARM indicator flashes during pre-alarm recording and lights during standby.

2) Starts recording video before the ALARM IN terminal is ground or motion is detected.

3) Can only be executed when pre-alarm recording has been set in the <RECORD SETTING> screen or <RECORD SETTING A > ~ <RECORD SETTING D> screen. The recording channels after input of an alarm signals is executed only of camera set in the <RECORD SETTING> screen and <RECORD SETTING A > ~ <RECORD SETTING D> screen.

➲ Pre-alarm recording and normal recording cannot be executed simultaneously.

➲ The pre-alarm recording time differs depending on the recorded contents. The recording time may also differ depending on the video contents or the timing of the alarm signal input.

ⓘ Although playback is available while the PRE-ALARM indicator is on, normal recording cannot be made.

■ EMERGENCY RECORDINGS

If the EMERGENCY terminal on the alarm sensor makes contact when the MAIN switch on the back of the unit, and the POWER button on the front of the unit are both ON, EMERGENCY RECORDING will start automatically overriding all other settings.

ⓘ Emergency recording cannot be made when the MAIN switch is OFF, the POWER switch is OFF and the unit is in timer recording standby.

➲ For details concerning emergency recording settings, ☞ see page 41.

Emergency recording :

1) Records only for the time specified in recording interval “25P” and recording picture quality “SUPER”.

2) Cameras used

• Recording is performed using all cameras other than those set to “- - - - -” in “REC MODE”.

• During timer recording, recording is performed using all cameras other than those set to “- - - - -” in the recording mode of the set time frame.

3) During recording

• The EMERGENCY indicator flashes and then runs on when recording is completed. To turn off the indicator, display the <ALARM LIST SEARCH> screen and press the WARNING RESET button for more than 5 seconds.

• The camera number buttons that are used for alarm recording and the camera number display on the screen flashes.

• The operation mode and “ALARM RECORDING” (in red) are displayed on the screen.

4) Recording is stored and displayed in the alarm list in red.

■ SERIES RECORDINGS

When connecting 2 units, recording with the second unit can be set to start automatically when the HDD space of the first unit becomes empty or when there is a failure during HDD recording.

ⓘ Not available during timer recording.

♦ Setting example for series recording 1

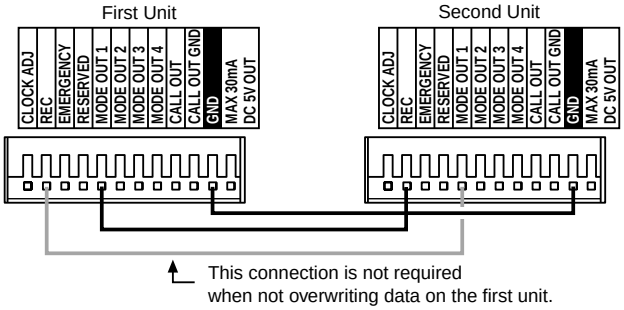
Setting for operating the second unit as shown below.

• When the remaining capacity of the first unit becomes less than 20% during HDD recording

→ Automatically start recording to the HDD of the second unit

• When the remaining capacity of the second unit becomes less than 20% during HDD recording

→ Automatically start recording to the HDD of the first unit by overwriting existing data (it is also possible to set to that data of the first unit is not overwritten).



The following settings are performed for both units.

1. Press the SET UP button → <SETTINGS> → <INITIAL SET UP/INFORMATION> → Select “HDD REPEAT REC” in the <HDD SETTINGS> screen. Display the “STANDBY” and confirm.

```
<HDD SETTINGS>
››HDD REPEAT REC          STANDBY
 HDD REPEAT PLAY              OFF
 IM-CHECK PLAY                OFF
 SEQUENTIAL PLAY              OFF
```

➲ If not overwriting data on the first unit (when the remaining capacity becomes less than 20%), set "HDD REPEAT REC" of the first unit to "OFF".

2. Press the SET UP button → <SETTINGS> → <INITIAL SET UP/INFORMATION> → Select "MODE OUT 1" ~ "MODE OUT 4" (✻ 2) in the <REAR TERMINAL SETTINGS> screen. Display the "REMAIN" and confirm.

- **✻ 2 : Set the number of the connected MODE OUT terminal.**

➲ When not overwriting data on the first unit, this setting is not required for the second unit.

3. Display "HDD-20%" in "REMAIN HDD" of the same screen and confirm.

```
<REAR TERMINAL SETTINGS>
 MODE OUT 1                REMAIN
 MODE OUT 2                REMAIN
 MODE OUT 3                REMAIN
 MODE OUT 4                REMAIN
 KEY SOUND                    ON
 BUZZER                    REMAIN
››REMAIN HDD              HDD-20%
 CALL OUT SETTINGS
 EMERGENCY REC DURATION     10M
```

➲ If not overwriting data on the first unit (when the remaining capacity becomes less than 20%), this setting is not required for the second unit.

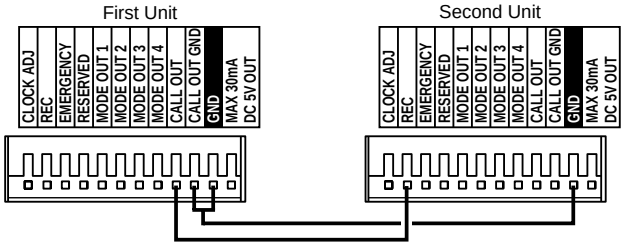
4. Turn the SHUTTLE ring counterclockwise or press the SET UP button.

♦ Setting example for series recording 2

Setting for operating the second unit as shown below.

• When the remaining capacity of the first unit becomes less than 20% or an error occurs during HDD recording

→ Automatically start recording to the HDD of the second unit



The following setting is made for the second unit only.

1. Press the SET UP button → <SETTINGS> → <INITIAL SET UP/INFORMATION> → <REAR TERMINAL SETTINGS> → Select "HDD REMAIN" in the <CALL OUT SETTINGS> screen. Display the "20%" and confirm.

```
<CALL OUT SETTINGS>
››HDD REMAIN                 20%
 HDD FULL                    OFF
```

2. Turn the SHUTTLE ring counterclockwise or press the SET UP button.

■ Playing still frames

1. Press the PAUSE button during playback.

• The unit switches to still frame playback. Press the button again to resume playback.

• If a camera number (1 ~ 9) button is pressed during single screen still frame playback, the video of the camera number button pressed will be displayed by searching forward.

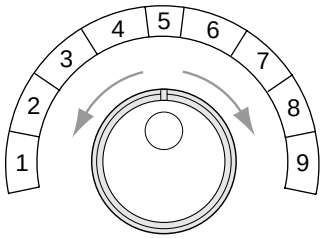
■ Shuttle viewing/direct shuttle viewing

Turning the SHUTTLE ring during still frame playback, playback or reverse playback, the playback speed can be changed.

1. (During shuttle viewing • • •)
Turn the SHUTTLE ring during still frame playback.

• The playback speed depends on the angle the SHUTTLE ring is turned.

• When letting go of the SHUTTLE ring, the ring will return to the center and the unit will return to still frame playback.



1 High-speed rewind (300MB units)
2 Reverse speed search (30MB units)
3 Reverse speed search (1MB units)
4 Reverse speed search (Skip 30fields)
5 Still frame playback
6 Forward speed search (Skip 30fields)
7 Forward speed search (1MB units)
8 Forward speed search (30MB units)
9 High-speed fast forward (300MB units)

2. (During direct shuttle viewing • • •)
Turn the SHUTTLE ring during playback or reverse playback.

• The playback speed depends on the angle the SHUTTLE ring is turned.

• When letting go of the SHUTTLE ring, the ring will return to the center and the unit will return to still frame playback. (The unit will not return to playback or reverse playback.)

■ Shuttle hold

The playback speed can be maintained even when letting go of the SHUTTLE ring during shuttle viewing.

1. Press the PAUSE (SHUTTLE HOLD) button while holding the SHUTTLE ring in angle during shuttle playback.

2. Let go of the SHUTTLE ring.

• The playback speed is maintained.

• To cancel shuttle hold, press the PAUSE button. The unit will switch to still frame playback.

■ Frame-by-frame palyback

1. Turn the JOG dial during still frame playback.

• Clockwise : Forward frame feeding.

• Counterclockwise : Reverse frame feeding.

• Clockwise and hold : Continuous forward frame feeding.

• Counterclockwise and hold : Continuous reverse frame feeding.

• When turning of JOG dial is stopped : Unit returns to still frame playback.

(!) During frame feeding in the single screen mode, the frame feeding operation may not operate correctly when the JOG dial is turned too fast since frame feeding is performed while searching the video of the display camera number.

■ Reverse palyback

1. Press the REV. PLAY (REVERSE PLAYBACK) button while playback is stopped.

• Playback will be made in the reverse direction. Playback will stop when press the STOP button.

➲ When reverse playback is performed first after inserting the power, the last recorded video will be played back in reverse first.

■ High-speed fast-forward/high-speed rewind

1. Turn the SHUTTLE ring for more than 1 second while playback is stopped.

• Clockwise for more than 1 second :
Will activate High-speed fast-forward playback (300 MB units).

• Counterclockwise for more than 1 second :
Will activate High-speed rewind playback (300MB units).

• Press the PLAY/STOP button: Playback is stopped.

➲ **During high-speed fast-forward/rewind, the current position is displayed on the bottom or top of the screen. S (start) and E (end) indicate the beginning and end of the HDD space and "I" indicate the current position.**

■ Changing playback intervals

Although playback is performed using the same intervals during playback and reverse playback as the recording intervals, the playback interval can also be changed. This is convenient when playing back recordings with fast motion slowly or when playing back video recorded using extended recording intervals fast.

1-1. (To play back recording with fast motion slowly • • •)
Press the REV. PLAY (REVERSE PLAYBACK) button during playback or reverse playback.

• Playback or reverse playback will be made at 8 second intervals per camera (or 72 seconds if there are 9 cameras).

1-2. Press the PLAY button.

• The playback interval is changed to a faster setting (4 sec., 2 sec., and so on) each time the button is pressed.

2-1. (To play back video recorded using extended recording intervals fast • • •)
Press the PLAY button during playback or reverse playback.

• Playback or reverse playback will be made at 0.03 second intervals per camera.

2-2. Press the REV. PLAY (REVERSE PLAYBACK) button.

• The playback interval is changed to a slower setting (0.06 sec., 0.1 sec., and so on) each time the button is pressed.

(!) Audio cannot be played back when changing the playback interval.

(!) Once the playback interval is changed, audio will not be played back even when returning the playback interval to the original value. To playback audio, pause playback and then play the video again.

ⓘ Once the playback interval is changed, the green display of the playback interval will remain unchanged even when returning the playback interval to the original value. To check the original playback interval of the recording, pause playback and then play the video again.

ⓘ Altering the playback interval settings and then performing a quick playback of image data with long recording intervals may cause discrepancies between actual recording time and the recording time displayed on the screen.

➡ When changing to the single display mode with "2" or "3" set in "DISPLAY MODE" in the <TIME DATE /DISPLAY SETTINGS> screen, the playback interval is displayed on the screen in green for easy confirmation if the value is changed.

■ Monitor display settings and playback operation

• Single screen : The screen will change frame by frame at a rate equal to the recording interval multiplied by the number of cameras used in the recording.

• SPLIT4 : Each mini-screen will change frame by frame at a rate equal to the recording interval multiplied by the number of cameras used in the recording. The screen display shift to still frame mode during playback from a camera which is not indicated.

• SPLIT9 : Each mini-screen will change frame by frame at the recorded interval. The screen display shift to still frame mode during playback from a camera which is not indicated.

■ Simultaneous playback during recording

The data being recorded can be played back simultaneously.

ⓘ The video being played back may pause temporarily or the sound may be interrupted.

ⓘ Noise may be noticeable on the video during shuttle playback.

➡ Split screen display can be selected individually for recording/playback.

Various search

The various search functions of this unit can be used to skip to the beginning of the desired video.

■ SEARCH SELECTION

The search screen appears when the SEARCH button on this unit is pressed. When pressing the SEARCH button again, the <SEARCH SELECTION> screen appears to select the playback device (media), search type and the camera number to search.

♦ SEARCH TYPE

When pressing the SEARCH button, which search screen to display from the 5 search functions is set.

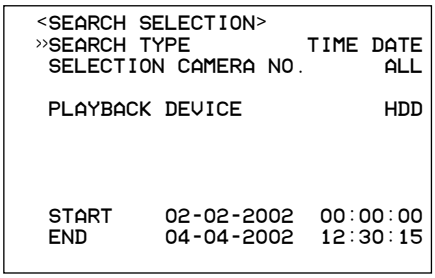
Setting (default : “TIME DATE”)
“TIME DATE”, “INDEX”, “ALARM INDEX”, “ALARM SKIP”, “ALALRM LIST”

1. Press the SEARCH button twice.
• The search screen appears when the button is pressed the first time. The <SEARCH SELECTION> screen appears when the button is pressed again.

2. Display the desired setting in “SEARCH TYPE” and confirm.

3. Turn the SUTTLE ring counterclockwise.
• The search screen set in step 2 appears.

4. Turn the SHUTTLE ring counterclockwise or press the SET UP button.



♦ SELECTION CAMERA NO.

The camera number to search is selected. “SELECTION CAMERA NO.” setting will not appear if “SEARCH TYPE” is set to “INDEX SEARCH”.

Setting (default : “ALL”)
“ALL”, “ ① ”, “ ② ”, “ ③ ”, “ ④ ”, “ ⑤ ”, “ ⑥ ”, “ ⑦ ”, “ ⑧ ”, “ ⑨ ”

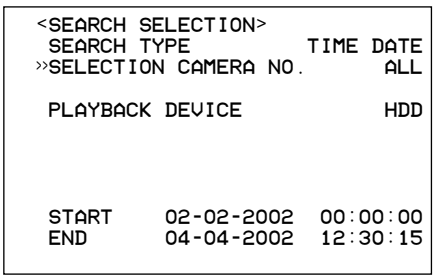
“ALL” : Search is conducted for all camera number “ ① ” ~ “ ⑨ ” .

1. Press the SEARCH button twice to display the <SEARCH SELECTION> screen.

2. Display the desired setting in “SELECTION CAMERA NO.” and confirm.

3. Turn the SUTTLE ring counterclockwise.
• The display returns to the search screen.

4. Turn the SHUTTLE ring counterclockwise or press the SET UP button.



♦ DATE/TIME

Displayed only when the above “SEARCH TYPE” is set to “ALARM LIST”. Used when narrowing down the number of lists to display on the screen during alarm list search (☞ see pages 54, 55).

♦ PLAYBACK DEVICE

Select the media to play back (HDD or Compact Flash).

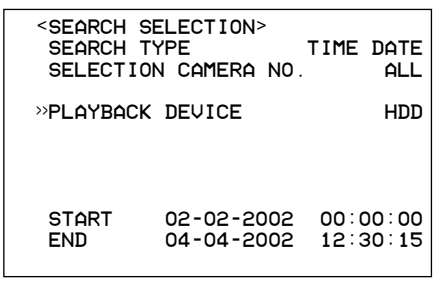
Setting (default : “HDD”)
“HDD”, “CFC”

1. Press the SEARCH button twice to display the <SEARCH SELECTION> screen.

2. Display the desired setting in “PLAYBACK DEVICE” and confirm.

3. Turn the SUTTLE ring counterclockwise.

4. Turn the SHUTTLE ring counterclockwise or press the SET UP button.



➲ START/END display
The date/time of the recording start/end points of the device (media) set in “PLAYBACK DEVICE” is displayed. Use this as reference when searching.

■ TIME DATE SEARCH

☞ See pages 14, 15.

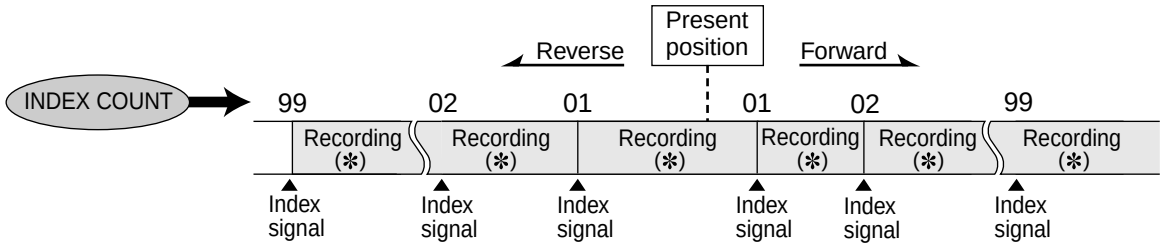
■ INDEX SEARCH/ALARM INDEX SEARCH

With this unit, index signals are automatically written to the HDD at the start of each recording. It is possible to search these signals and playback starting at such index points.

There are 2 types of index searches :
• <INDEX SEARCH> : Searches index signals written during normal recording.
• <ALARM INDEX SEARCH> : Searches index signals written during alarm recording or emergency recoding.

Up to 99 indexes can be searched in either forward/reverse direction.

How indexes are counted for <INDEX SEARCH>, <ALARM INDEX SEARCH>



(✻) : Normal recording for INDEX SEARCH. Alarm recording or emergency recording for ALARM INDEX SEARCH.

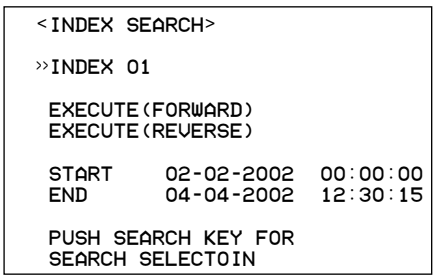
1. Press the SEARCH button.

• The search screen selected in above "SEARCH TYPE" appears.

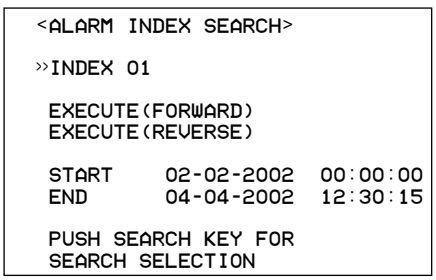
➲ "SELECTION CAMERA NO." setting will not appear if "INDEX SEARCH" is set.

2. (When the desired search screen is not displayed on the screen • • •) Change the above "SEARCH TYPE" setting and display the "INDEX SEARCH" screen or "ALARM INDEX SEARCH" screen.

• When searching index signals of normal recording, display the "INDEX SEARCH" screen.
• When searching index signals of alarm recording or emergency recording, display the " ALARM INDEX SEARCH" screen.
• After performing INDEX SEARCH/ALARM INDEX SEARCH :
• SPLIT9 screen is always displayed for INDEX SEARCH.
• For ALARM INDEX SEARCH, SPLIT9 screen is displayed when setting the above "SELECTION CAMERA NO." to "ALL". Single screen with still frame playback is displayed when selecting individual camera number.



➲ The camera number written by the start index signal of the pre-alarm recording may differ from the camera number displayed in the alarm list.



3. Display the desired setting in "INDEX" and confirm.

4. Select "EXECUTE(FORWARD)" or "EXECUTE(REVERSE)" and confirm.

• "EXECUTE (FORWARD)" : Search is performed in the forward direction.
• "EXECUTE (REVERSE)" : Search is performed in the reverse direction.

• To cancel the search, press the SEARCH button twice.
• Search will not be performed if there are no index signals. To return to the normal screen, press the SEARCH button.

5. Playback the search result.

• Press the PLAY (REV. PLAY) or PAUSE button.

6. To stop playback or still-frame playback, press the STOP button.

7. To clear the search screen, press the SEARCH button.

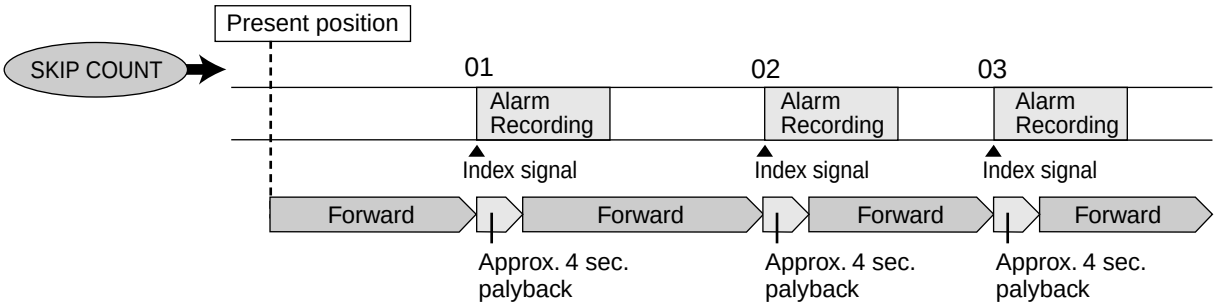
(!) To change the desired camera number to the single screen display during still-frame playback in SPLIT9 display, press the SEARCH button to clear the search setting screen and press the desired camera number button.

(!) Search may not perform properly at times depending on the recorded condition of the index signals.

■ SKIP SEARCH

It is possible to forward/reverse to locations where index signals of alarm recordings are recorded and play back approximately 4 seconds of each video.

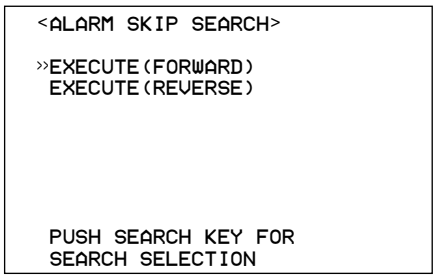
<SKIP SEARCH> In the case of forward direction



1. Press the SEARCH button.
- **The search screen selected in above "SEARCH TYPE" appears.**

2. (When the desired search screen is not displayed on the screen • • •)
Change the above "SEARCH TYPE" setting and display the "SKIP SEARCH" screen.

3. Select "EXECUTE(FORWARD)" or "EXECUTE(REVERSE)" and confirm.
- **"EXECUTE(FORWARD)" : Search is performed in the forward direction.**
- **"EXECUTE(REVERSE)" : Search is performed in the reverse direction.**
- **To cancel the search, press the SEARCH button.**
- **Playback of search result from skip search will be in SPLIT9 display regardless of whether the above "SELECTION CAMERA NO." is set to "ALL" or individual camera number is selected.**
- **To return to the normal screen, press the SEARCH button.**



(!) The unit cannot be changed to single screen display mode during playback in SPLIT9 dispaly.

4. Press the PLAY button when the desired video is displayed.
- **Playback will continue without forwarding/reversing.**

5. To stop SKIP SEARCH, press the STOP button.

6. To clear the search screen, press the SEARCH button.

(!) When performing skip search in the reverse direction with index signals of less than 4 seconds, that portion may play back repeatedly. In this case, press the PLAY/STOP button to stop the search and perform skip search in the reverse direction again after the particular portion has been passed using reverse playback, etc.

(!) Search may not perform properly at times depending on the recorded condition of the index signals.

■ ALARM LIST SEARCH

This unit stores the start time of alarm recording and emergency recording in the alarm list when such recording begins. It is also possible to index search the desired time (or the closest time) from the list of alarm recording (emergency recording) start times stored in the alarm list.

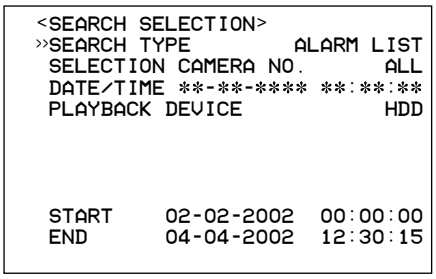
➲ Up to 10,000 alarm recording (emergency recording) start times can be stored and displayed.

➲ In the alarm list, items with the ALARM IN terminal on the rear grounded are indicated in white, items that were detected with motion are indicated in green and items with the EMERGENCY terminal grounded are indicated in red.

➲ To clear the alarm list, erase the data in the <HDD DATA CLEAR> screen. Alarm recording then will be stored again from 00001.

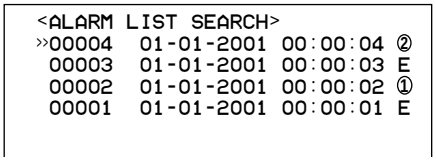
1. Press the SEARCH button.

• The search screen selected in above "SEARCH TYPE" appears.



2. (When the desired search screen is not displayed on the screen • • •)
Change the above "SEARCH TYPE" setting and display the "ALARM LIST SEARCH" screen.

• To display the emergency recording start time in the alarm list, set "SELECTION CAMERA NO." in the <SEARCH SELECTION> screen to "ALL". "E" indicating emergency recording will appear next to the camera number in the alarm list.



3. Select the desired alarm list number.

• ▲ button/turn JOG dial counterclockwise : Selection moves to the next number.
• ▼ button/turn JOG dial clockwise : Selection moves to the previous number.
• ▶ button : Displays the page with date prior to the date of the currently opened page.
• ◀ button : Displays the page with date newer than the date of the currently opened page.
• To cancel search, press the SEARCH button.

ⓘ The camera number written by the start index signal of the pre-alarm recording may differ from the camera number displayed in the alarm list.

ⓘ When setting "HDD REPEAT REC" to "OFF" or "STANDBY" and there is an alarm recording (emergency recording) at the end of the HDD, that recording may not be stored in the alarm list and that number may become missing and not displayed.

➲ **When an alarm recording (emergency recording) is performed using display of the <ALARM LIST SEARCH> screen, exit the <ALARM LIST SEARCH> screen and display the screen again. The new item will be added to the list.**

➲ **When using "DATE/TIME" in the <SEARCH SELECTION> screen, the number of list items displayed on the screen can be narrowed down.**

1. Press the SEARCH button to display the <SEARCH SELECTION> screen.
2. Set the desired date and time of the result in "DATE/TIME" and confirm.
3. Turn the SHUTTLE ring counterclockwise once to display narrowed-down list.

4. Select the desired alarm list number and turn the SHUTTLE ring clockwise to confirm.

• To cancel the search, press the SEARCH button.
• After performing alarm search, the screen will be in the single screen display with still-frame playback regardless of whether setting "ALL" in the above "SELECTION CAMERA NO." or selecting an individual camera number. The search result of emergency recording will display the still-frame screen of the smallest camera number.

5. Playback the search result.

• Press either the PLAY (REV. PLAY) or PAUSE button.

6. To stop playback or still-frame playback, press the STOP button.

7. To clear the search screen, press the SEARCH button.

■ START/END SEARCH

It is possible to search the recording starting/ending point of the device selected in <TIME DATE SEARCH>, <INDEX SEARCH> and <ALARM INDEX SEARCH> for playback.

1. Press the SEARCH button.

• The search screen selected in above "SEARCH TYPE" appears.

2-1. (To play back the oldest recording • • •)
Select "START" and turn the SHUTTLE ring clockwise.

2-2. (To play back the last recording • • •)
Select "END" and turn the SHUTTLE ring clockwise.

• After performing START/END SEARCH :
• For TIME DATE SEARCH andALARM INDEX SEARCH, SPLIT9 screen is displayedwhen setting the above "SELECTION CAMERA NO." to "ALL". Single screen with still frame playback is displayed when selecting individual camera number.
• SPLIT9 screen is always displayed for INDEX SEARCH.

3. Playback the search result.

• Press the PLAY (REV. PLAY) or PAUSE button.

4. To stop playback or still-frame playback, press the STOP button.

5. To clear the search screen, press the SEARCH button.

ⓘ To change the SPLIT9 screen during still-frame playback to single screen display of the desired camera number, press the SEARCH button to clear the search mode screen and press the desired camera number button.

It is possible to copy the part of the contents recorded on the HDD to a Compact Flash Card or restore the data in a Compact Flash Card to the HDD. In addition, it is possible to copy data to a videotape by connecting an analog video recorder.

ⓘ Before use, read the cautionary notes described in the manual included with Compact Flash Card.

■ Copying from HDD to Compact Flash Card/ Restoring from Compact Flash Card to HDD

1. Insert the Compact Flash Card into the Compact Flash slot of this unit.

2. Press the COPY button.
• The <COPY> screen appears.

```
<COPY>
»DIRECTION              HDD→CFC
 MODE                  OVERWRITE
 TRANSFER PERIOD       START•END
 START     01-01-2002  00:00:00
 END       01-01-2002  00:00:10

 EXECUTE
```

3. Display the desired setting in "DIRECTION" and confirm.
• Setting (default : "HDD→CFC")
"HDD CFC" : Copying from HDD to Compact Flash Card.
"CFC HDD" : Restoring from Compact Flash Card to HDD.

ⓘ When selecting "CFC→HDD", the menu will change to <RESTORE>.

```
<RESTORE>
»DIRECTION              CFC→HDD
 MODE                  OVERWRITE
 TRANSFER PERIOD       START•END
 START     01-01-2002  00:00:00
 END       01-01-2002  00:00:10

 EXECUTE
```

4. Display the desired setting in "MODE" and confirm.
• Setting (default : "OVERWRITE")
"OVERWRITE" : Overwrites the recorded contents.
"FIFO" : Adds to the recorded contents.

ⓘ Caution is advised when setting and executing "HDD→CFC" for "DIRECTION" and "OVERWRITE" for "MODE", since all recorded data will be overwritten regardless of whether the data in the Compact Flash Card is recording data or menu data.

5. Display the desired setting in "TRANSFER PERIOD" and confirm.
• Setting (default : "START•END")
"START•END" : Sets the recording start/end date/time.
"START" : Sets the recording start date/time.

6. Set the desired copy (restore) start date and time to "START" and confirm.

7. (When setting "START•END" in step 5 • • •)
Set the desired copy (restore) end date and time to "END" and confirm.

8. Select "EXECUTE" and turn the SHUTTLE ring clockwise.
• The copy (restore) operation is executed.
• If the copy (restore) operation does not start, turn the SHUTTLE ring counterclockwise or press the COPY button.

ⓘ If the copy range exceeds the available capacity of the Compact Flash Card, "COPY SIZE ERROR" warning will appear on the screen when copying (☞ see page 87) In this case, set again using narrower copy range or insert a Card with larger capacity.

ⓘ If a data with no date is included in the copy range, "COPY MEDIA ERROR" warning will appear on the screen.

ⓘ When there is no data to restore in the Compact Flash Card, "RESTORE SIZE ERROR" warning will appear on the screen when restoring.

ⓘ Compact Flash Card recording format : Original format (FSM1)

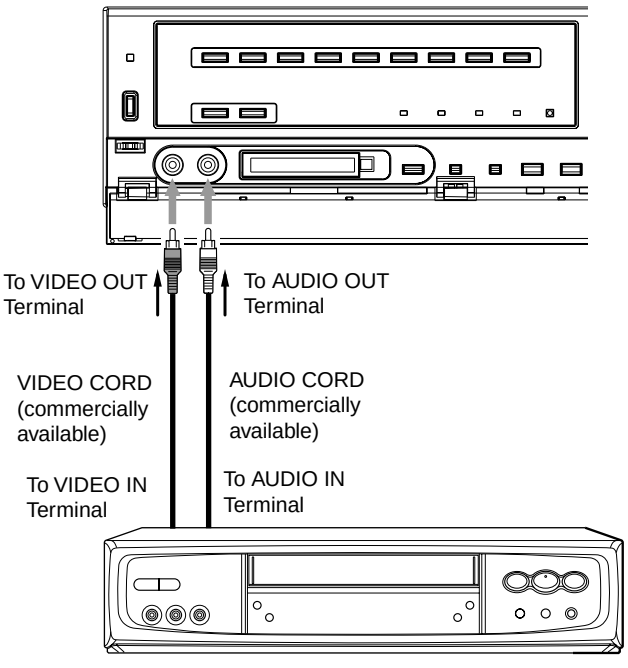
ⓘ When restoring from Compact Flash Card of a different format, "RESTORE MEDIA ERROR" warning will appear on the screen.

ⓘ For usable Compact Flash Card, check with your dealer of purchase.

➲ For the recordable time when copying to a Compact Flash Card, ☞ see page 83.

■ Copying from unit to videotape

Data can be copied even when the unit is recording. For recording operations, see the instruction manual accompanying the analog video recorder.


To VIDEO OUT Terminal
To AUDIO OUT Terminal
VIDEO CORD (commercially available)
AUDIO CORD (commercially available)
To VIDEO IN Terminal
To AUDIO IN Terminal

ANALOG VIDEO RECORDER

1. [Analog video recorder] Prepare the unit for recording.
• First, set the input source to the external input connecting this unit.

2. [This unit] Press the SPLIT/SEQUENCE button to select the screen type to play back (☞ see page 26).
• Single screen, SPLIT4 (a, b and c) screen and SPLIT9 screens can be selected.

➲ It is also possible to copy the video of each camera in order using single screen sequential playback (camera sequential playback function) (☞ see page 38).

3. [This unit] Use the search function to move to the beginning of the video to copy (☞ see page 55).

4. [Analog video recorder] Start recording.

5. [This unit] Press the PLAY button to start playback.

6. To stop copying, press the STOP button of this unit. After stopping playback, stop the recording on the analog video recorder.

ⓘ Only the video of the camera number displayed on the screen will be copied to the videotape.

■ Power failure compensation circuit

This unit is equipped with a power failure compensation circuit to store date and time settings for about a month with a charge of more than 48 hours (full-charge). In addition, timer recording and menu screen settings are also kept. The accuracy of the time will decline if the power plug is not connected to the wall outlet for and extensive period. In this case, it is recommended to check the current time setting.

■ Power failure reset recording

If there is a power failure during recording, the recording will resume after the power is restored. If there is a power failure during timer recording, the recording will resume after the power is restored when within the set time period of the timer. For alarm recording, recording will stop even within the set recording time.

➲ The playback video at the start position where recording is resumed after a power failure may be distorted and the search function may not operate properly.

■ Start time recording during power failure, etc.

When a power failure, etc., occurs while the power is on, the failure start time is stored and displayed in the WARNING LOG LIST in red (max. 1000) (for checking the failure start time, ☞ see page 42).

■ RESET button

When pressing the RESET button on the rear of the unit will a ballpoint pen, etc., the unit is reset and the power turns off.

➲ The menu settings and the current time are kept even when resetting the unit.

■ SIMPLE LOCK/PASSWORD LOCK

This unit is equipped with 2 lock functions : simple lock that does not require a password when unlocking and password lock that required a password when unlocking.

• If the password for unlocking has not been set : Lock function will be SIMPLE LOCK.
• If the password for unlocking has been set : Lock function will be PASSWORD LOCK.

➲ When the MAIN switch (main power switch) on the rear of the unit is set to ON, SIMPLE LOCK/PASSWORD LOCK setting can be made even with the POWER switch on the front set to OFF.

ⓘ When the MAIN switch (main power switch) on the rear of the unit is set to OFF or when a menu is being displayed, SIMPLE LOCK/PASSWORD LOCK will not function.

♦ SIMPLE LOCK

When SIMPLE LOCK is on, buttons other than the SPLIT/SEQUENCE button, ZOOM button, camera number buttons 1 ~ 9 and the MAIN switch become inoperable and the unit will be locked in the current state.

To apply simple lock • • •

1. Press the LOCK button using a ballpoint pen, etc., when both the MAIN switch and POWER switch are set to ON.

• The lock turns on and the LOCK indicator lights.

To cancel simple lock • • •

1. Press the LOCK button.

• The lock is canceled and the LOCK indicator turns off.

♦ PASSWORD LOCK

When applying PASSWORD LOCK, buttons other than the SPLIT/SEQUENCE button, ZOOM button, camear number buttons 1 ~ 9 and the MAIN switch become inoperable until the correct password is entered and the lock is canceled.

➲ When the MAIN switch of the rear is set to ON, the PASSWORD LOCK can be registered, set and canceled even with the POWER switch on the front set to OFF.

To register the password • • •

The password is registered using a 4 digit number using numbers from 0 ~ 9.

1. Press and hold the LOCK button with a ballpoint pen, etc., for 5 seconds with MAIN switch set to ON.

• The <PASSWORD LOCK SETTING> screen appears and the first input position of "FIRST" will be displayed in reversed color.

```
<PASSWORD LOCK SETTING>
 SET PASSWORD

 FIRST  -***   CONFIRM


JOG:SELECT INPUT PLACE
SHUTTLE>>:CONFIRM INPUT PLACE

SELECT CONFORM AND SHUTTLE>>
TO CONFIRM PASSWORD
```

2. Turn the SHUTTLE ring clockwise.

• The background of the input position displayed in reversed color turns red and flashes.

3. Turn the JOG dial to input a number and turn the SHUTTLE ring clockwise.

• Flashing of the inputted number stops.

4. Turn the JOG dial to move the reverse display to the next input position and turn the SHUTTLE ring clockwise.

• The background of the next input position turns red and flashes.

5. Repeat steps 3 and 4 to enter the remaining digits of "FIRST".

• If there is an error in the input, turn the JOG dial to move to the input position to change and repeat steps 3 and 4.

6. Turn the JOG dial to move the reverse display to "CONFIRM" and turn the SHUTTLE ring clockwise.

• "SECOND" appears and the first input position is displayed in reversed color.

```
<PASSWORD LOCK SETTING>
 SET PASSWORD

 FIRST  ****
 SECOND -***   CONFIRM


JOG:SELECT INPUT PLACE
SHUTTLE>>:CONFIRM INPUT PLACE

SELECT CONFORM AND SHUTTLE>>
TO CONFIRM PASSWORD
```

(!) To exit the screen when setting the PASSWORD LOCK, press and hold the LOCK button for more than 5 seconds while one of the input positions is displayed in reversed color. The setting screen will be cleared and the LOCK indicator will flash. Press the LOCK button again to turn off the indicator. The screen cannot be exited while one of the input positions is still flashing.

7. Re-enter the number entered in "FIRST" in "SECOND".

8. Turn the JOG dial to move the reverse display to "CONFIRM" and turn the SHUTTLE ring clockwise.

• The <PASSWORD LOCK SETTING> screen is cleared and the password is registered.

• The PASSWORD LOCK is applied and the LOCK indicator lights.

To cancel password lock • • •

1. Press and hold the LOCK button for more than 5 seconds.

• The <PASSWORD LOCK SETTING> screen appears and the first input position is displayed in reverse color.

```
<PASSWORD LOCK SETTING>
 UNLOCK

         -***   CONFIRM


JOG:SELECT INPUT PLACE
SHUTTLE>>:CONFIRM INPUT PLACE

SELECT CONFORM AND SHUTTLE>>
TO UNLOCK
```

2. Turn the SHUTTLE ring clockwise.

• The background of the input position displayed in reversed color turns red and flashes.

3. Turn the JOG dial to input a number and turn the SHUTTLE ring clockwise.

• Flashing of the inputted number stops.

4. Turn the JOG dial to move the reverse display to the next input position and turn the SHUTTLE ring clockwise.

• The next input position flashes.

5. Repeat steps 3 and 4 to enter the remaining numbers.

• If there is an error in the input, turn the JOG dial to move to the input position to change and repeat steps 3 and 4.

6. Turn the JOG dial to move the reverse display to "CONFIRM" and turn the SHUTTLE ring clockwise.

• The <PASSWORD LOCK SETTING> screen is cleared, the lock is canceled and the LOCK indicator turns off.

➲ In the case the set password is lost or forgotten, contact the Mitsubishi Service Center.

To apply PASSWORD LOCK • • •

1. Press the LOCK button using a ballpoint pen, etc., with the POWER switch set to ON.

• The PASSWORD LOCK is applied and the LOCK indicator lights.

To change the password • • •

1. Press the LOCK button using a ballpoint pen, etc., for more than 5 seconds when the PASSWORD LOCK is not on.

• The <PASSWORD LOCK SETTING> screen appears.

2. Enter the old password.

• The <PASSWORD LOCK SETTING> screen appears.

3. Repeat steps 2 ~6 of the above "To register the password" to enter and confirm the new password.

• The <PASSWORD LOCK SETTING> screen is cleared and the new password is registered.

• The PASSWORD LOCK is applied and the LOCK indicator lights.

Changing from PASSWORD LOCK mode to simple lock mode • • •

1. Press the LOCK button using a ballpoint pen, etc., for more than 5 seconds when the PASSWORD LOCK is not on.

• The <PASSWORD LOCK SETTING> screen appears.

2. Enter the old password.

• The <PASSWORD LOCK SETTING> screen appears.

3. Repeat steps 2 ~6 of the above "To register the password" to enter " - " for all input positions of both "FIRST" and "SECOND" and confirm.

• The <PASSWORD LOCK SETTING> screen is cleared and the unit switch to the SIMPLE LOCK mode.

■ COVERT CAMERA SETTING

The video of the specified camera number can be set to not be displayed regardless of the presence of video signals.

Setting (default : "ON")
"ON", "OFF"

➡ When setting "COVERT CAMERA SETTING" to "OFF" for a camera set for recording operation, recording will be performed without displaying the video on the screen.

(!) When setting "COVERT CAMERA SETTING" to "OFF", the playback video will not be displayed and " - " will appear in the display section of the corresponding camera. Furthermore, the operation mode display and alarm display setting will not function.

1. Press the SET UP button and select <SETTINGS>. With the <MPX DISPLAY SETTINGS> screen displayed, press the WARNING RESET button for more than 5 seconds.

• The <COVERT CAMERA SETTING> screen appears.

```
<COVERT CAMERA SETTING>
NUMBER          DISPLAY
»①                ON
 ②                ON
 ③                ON
 ④                ON
 ⑤                ON
 ⑥                ON
 ⑦                ON
 ⑧                ON
 ⑨                ON
 ALARM DISPLAY   OFF
```

2. Turn the JOG dial to select the camera no. to set and turn the SHUTTLE ring clockwise.

• The background of the setting turns red and flashes.

3. Turn the JOG dial to select "OFF" and turn the SHUTTLE ring clockwise.

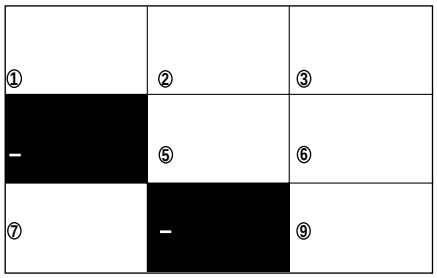
• The setting is confirmed and flashing stops.

• The set camera no. screen will turn black.

4. When continuing with setting for other camera no., repeat steps 2 and 3.

5. When completed with all settings, turn the SHUTTLE ring counterclockwise or press the SET UP button.

• The channel display of the camera no. screen set with "NONE" for "COVERT CAMERA SETTING" will become " - " and the screen will become black.



♦ ALARM DISPLAY

Setting for displaying the video with alarm signal input using the single screen display. If another alarm signal is inputted during alarm recording, the camera video with the latest alarm signal will appear on the single screen display. After alarm recording is completed, the screen returns to the normal display.

(!) When there are alarm signals to multiple camera number at the same time, the video of the smallest camera number will be displayed.

Setting (default : "OFF")
"OFF", "ON"

1. Press the SET UP button and select <SETTINGS>. With the <MPX DISPLAY SETTINGS> screen displayed, press the WARNING RESET button for more than 5 seconds.

• The <COVERT CAMERA SETTING> screen appears.

2. Turn the JOG dial to select "ALARM DISPLAY" and turn the SHUTTLE ring clockwise.

• The background of the setting turns red and flashes.

3. Turn the JOG dial to select "ON" and turn the SHUTTLE ring clockwise.

• The setting is confirmed and flashing stops.

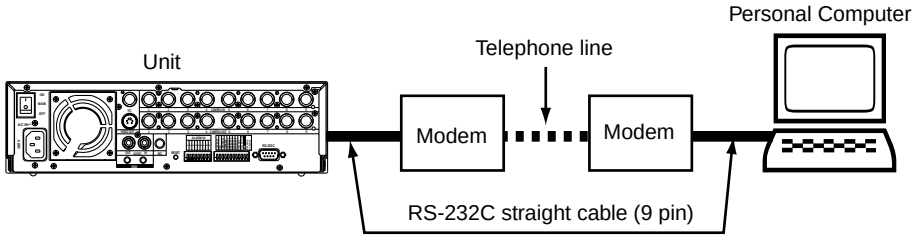
4. Turn the SHUTTLE ring counterclockwise or press the SET UP button.

■ Connecting with a personal computer

This unit can be remote controlled from a PC equipped with a RS-232C connection. It is also possible to input comments from a PC for recording comment information along with the video.

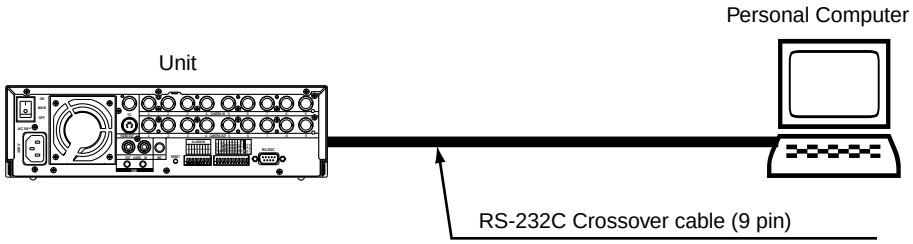
♦ Connection via modem

Please use RS-232C Straight cable (9pin) to connect a modem with this unit. The setting of CTS should be set to “HIGH” or “ON”. Please refer to the instruction manual of a modem for details about connection.

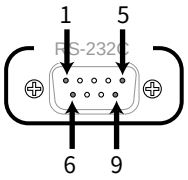


♦ Direct connection

Please use RS-232C crossover cable (9pin) to connect a modem with a personal computer. RS -232C Crossover cable differs depending on the personal computer.



♦ RS-232C Terminal

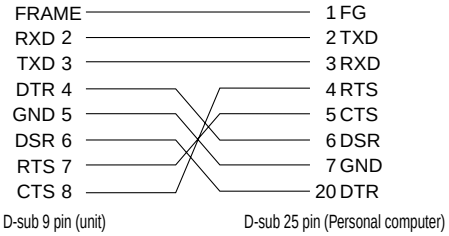


Pin NO.	Letters	Transmition Contents	Pin NO.	Letters	Transmition Contents
2	RXD	Receiving Data	6	DSR	Data Set Ready
3	TXD	Transmission Data	7	RTS	Request To Send
4	DTR	Data Terminal Ready	8	CTS	Clear To Send
5	GND	Signal Ground			

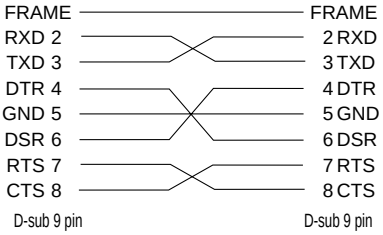
♦ RS-232C Cable

Please use the following RS-232C Crossover cable to connect your personal computer to the Unit.

1) When RS-232C terminal of personal computer is D-sub 25 pin



2) When Pesonal cpmputers RS-232C terminal is D-sub 9 pin



■ RS-232C settings

Communication related settings of this unit are made in “MODE” and “SETTINGS” of the <RS-232C> screen. Perform settings so that they are the same as the connecting modem or PC.

ⓘ When remote controlling this unit from a PC, set “MODE” in the <RS-232C> screen to “REMOTE A” (status condition change information is returned from the unit) or “REMOTE B” (status condition change information is not returned from the unit).

Available settings on unit

Synchronization	Name on Menu	Asynchronous
1 Transmission rate at the data received/ sent	TRANSMISSION RATE	1200/2400/4800/ 9600/19200
2 Data bit length	DATA BIT LENGTH	8 BIT/7 BIT
3 Parity bit setting	PARITY BIT	NONE/ODD/EVEN
4 Stop bit length	STOP BIT	1 BIT/2 BIT
5 Line feed setting	DELIMITER	CR/CR•LF

Perform the following settings on the PC

Synchronization	Name on Menu
1 X control	Not available
2 S parameter	Not available
3 CS-RS hamd-shake	Available

■ Command code system

2 types of command codes of “direct operation specification” and “false operation panel” can be selected according to the purpose of the unit.

■ Description of command code systems

♦ Direct opration specification

Control and settings are performed by checking execution, errors, etc., from the status returned from the unit for the command sent from the PC. This command type is structured by operation setting type commands that sets operations and menu setting type commands that directly sets various menus.

• Input format

Operation setting type commands are to be sent from the PC for each operation such as power on/off, record, playback, etc., for the unit.
Menu setting type commands are to be specified for each menu setting of the unit.
As a general rule, do not send commands continuously, but send the next command after checking that the present command has been executed and completed.

• Response format

After sending a command, the following items can be checked from the status returned from the unit.
1) Command execution result, error type, command name, operation status.
2) For operation setting type commands, the operation mode of the unit can be distinguished by the mode number of the returned status.
Distinction cannot be made with menu setting type commands. (Mode number is notified only when there is change is status.)

Example) Turn the Unit ON.

Command from PC	Replied status code from unit to PC	Meaning
PW1 #1		Indicates POWER ON command has been sent.
	RC #2	Indicates that the unit has received a command.
	EX,00PW1,03 #2	EX : Indicates that a command has been executed. 00 : Indicates that the execution was successful. PW1 : Indicates response to POWER ON command. 03 : Indicates POWER ON status.

ⓘ When the unit cannot execute the operation setting type command or menu setting command sent from a PC, the content is displayed in the error type of the status returned from the unit. Check the error code and take appropriate measures.

ⓘ For control type commands such as record, playback, etc., the interval between command transmission and the actual operation (command execution) may take some time. To prevent the gap between operation and actual execution, read the status after sending the command and check the transition of the actual execution.

♦ False operation panel command type

Operations can be specified from a PC as if operating the actual operation panel of the unit while viewing the output video. Each command is a command type that corresponds to the operation button of the unit.

• Input confirmation type

Send commands as if operate the buttons, JOG dial and SHUTTLE ring of the operation panel. As a general rule, do not send commands continuously, but send the next command after checking that the present command has been executed and completed. After sending a command, the command execution result, error type and command name can be checked by the status returned from the unit. To check the actual execution, view the output screen of the unit on the monitor screen.

Example) Recorded data is played back using still-frames.

Command from PC	Replied status code from unit to PC	Meaning
KKP0 #1		Indicates that a command equivalent to “push the POWER button” was sent.
	RC #2	Indicates that the unit has received a command.
	EX,00KKP0 #2	EX : Indicates that a command has been executed. 00 : Indicates that the execution was successful. KKP0 : Indicates that the POWER button was operated.
KKB1 #1		Indicates that a command equivalent to “push the PLAY button” was sent.
	PC #2	Indicates that the unit has received a command.
	EX,00KKB1 #2	EX : Indicates that a command has been executed. 00 : Indicates that the execution was successful. KKB1 : Indicates that the PLAY button was operated.
KKB4 #1		Indicates that a command equivalent to “push the PAUSE button” was sent.
	PC #2	Indicates that the unit has received a command.
	EX,00KKB4 #2	EX : Indicates that a command has been executed. 00 : Indicates that the execution was successful. KKB4 : Indicates that the PAUSE button was operated.

ⓘ When using shuttle operation commands, be sure to send the shuttle center command after sending the operation command. Otherwise, the shuttle operation will be kept until the shuttle center command is sent.

ⓘ For control type commands such as record, playback, etc., the interval between command transmission and the actual operation (command execution) may take some time. To prevent the gap between operation and actual execution, read the status after sending the command and check the transition of the actual execution.

♦ Status condition change information function

Example) Status condition change information of system mode and POWER ON is issued.

Replied status code from unit to PC	Meaning
EX,AA,0103 #2	EX : Indicates that a command has been executed. AA : Indicates that status condition change information. 0103 : Indicates that status condition of POWER ON.

When setting “MODE” (☞ see page 41) to “REMOTE A”, a status condition change information is sent to the PC when there is change in the unit status. The notification is not sent when setting to “REMOTE B”.

♦ Command receive confirmation function

After executing a received command, the error type during command execution is notified after execution status “EX”.

Error type	Contents of Error
00	Normal
01	Execute Error
02	Execute Unable Error
03	Incorrect command
04	Incorrect parameter
05	Excuting the command
06	Not corresponding

♦ Details of the numbers

#1 : When the setting of DELIMITER on <RS-232C SETTINGS> display is set to CR, carriage return code (0DH) will be input. If the setting is CR•LF, carriage return code (0DH) and line feed code (0AH) will be input.

#2 : When the setting of DELIMITER on <RS-232C SETTINGS> display is set to CR, carriage return code (0DH) will be output. If the setting is CR•LF, carriage return code (0DH) and line feed code (0AH) will be output.

✱ : Indicates one number or a character.

☞ See "Comment search command code", page 80.

♦ Command code

• RS-232C [Direct operation specification] operation setting system command form

Commands name	Commands	Status	Notes
Power	PW✱(1) #1	RC #2 EX,✱✱(2)PW✱(1),✱✱(3) #2	✱(1) : Power ON/OFF 0 : OFF 1 : ON ✱✱(2) : Error type ✱✱(3) : System mode number 00 : Power off 03 : Power on 06 : Setting menu 07 : Copy menu 08 : Search meu 09 : Device ususal situation 0A : Device initialize 0B : Device reconstruction 0F : System unusual situation
Recording	PC✱(1) #1	RC #2 EX,✱✱(2)PC✱(1),✱✱(3) #2	✱(1) : Recording/Stop recording 0 : Stop recording 1 : Recording ✱✱(2) : Error type ✱✱(3) : Recording mode number 00 : Stop 03 : Stop(pause) 04 : Recording 05 : Pre alarm recording 06 : Alarm recording during pause 07 : Alarm recording during recording 08 : Alarm recording during Pre alarm recording 0A : Recording error
Playback	PB✱✱(1) #1	RC #2 EX,✱✱(2)PB✱(1),✱✱(3) #2	✱✱(1) : Playback command 00 : Stop 11 : Playback 12 : Foward speed search 1 13 : Foward speed search 2 14 : Foward speed search 3 15 : Foward speed search 4 16 : Fast foward 17 : Foward field advance 21 : Reverse playback 22 : Reverse speed search 1 23 : Reverse speed search 2 24 : Reverse speed search 3 25 : Reverse speed search 4 26 : Rewind 27 : Reverse field advance 30 : Pause 41 : Forward time date search 42 : Forward record index search 43 : Forward alarm index search 44 : Forward skip search 52 : Reverse record index search 53 : Reverse alarm index search 54 : Reverse skip search 70 : Jump to start point 71 : Jump to end point ✱✱(2) : Error type ✱✱(3) : Playback mode number 00 : Stop 03 : Playback (single screen) 04 : Reverse playback (single screen) 05 : Playback pause (single screen) 06 : Reverse playback pause (single screen) 07 : Forward speed search (single screen) 08 : Reverse speed search (single screen) 09 : Fast forward (single screen) 0A : Rewind (single screen) 0B : Playback (split display) 0C : Reverse playback (split display) 0D : Playback pause (split display) 0E : Reverse playback pause (split display) 0F : Forward speed search (split display) 10 : Reverse speed search (split display) 11 : Fast forward (split display) 12 : Rewind (split display) 13 : Playback (zoom) 14 : Reverse playback (zoom) 15 : Playback pause (zoom) 16 : Reverse playback pause (zoom) 17 : Forward speed search (zoom) 18 : Reverse speed search (zoom) 19 : Fast forward (zoom) 1A : Rewind (zoom) 1C : Playback error
Alarm List search	PB✱✱(1)✱✱✱✱✱(4) #1	RC #2 EX,✱✱(2)PB✱✱(1)✱✱✱✱✱(4), ✱✱(3) #2	✱✱(1) : 60 ✱✱(2) : Error type ✱✱(3) : Playback mode number (refer to Playback mode) ✱✱✱✱✱(4) : Alarm list number (00000 ~ 09999) (Latest is 00000)

• RS-232C [Direct operation specification] operation setting system command form (Continued)

Commands name	Commands	Status	Notes
Comment search	PB★★(1)★★(2)★★(3)★★(4) ★★(5)★★★★★★★★★★★★★★★ ★★★★★★★★★★★★★★★ ★★★(6) #1	RC #2 EX,★★(7)PB★★(1)★★(2)★★(3)★★(4) ★★(5)★★★★★★★★★★★★★★★ ★★★★★★★★★★★★★★★ ★(6),★★(8) #2	★★(1) : Comment search (80) ★★(2) : Search direction 00 : Forward 01 : Reverse ★★(3) : number of search time (01 ~ 99) ★★(4) : Camera number 00 : CH1 01 : CH2 02 : CH3 03 : CH4 04 : CH5 05 : CH6 06 : CH7 07 : CH8 08 : CH9 ★★(5) : Caracter size (00 - 32) ★★★★★★★★★★★★★★★★★★★★★★★★★★★★ ★★★(6) : Comment ★★(7) : Error type ★★(8) : Playback mode number (refer to Playback mode)
Switcher	SW★★★★(1) #1	RC #2 EX,★★(2)SW★★★★(1),★★(3) #2	★★★★(1) : Switcher command 0101 : CH1 0102 : CH2 0103 : CH3 0104 : CH4 0105 : CH5 0106 : CH6 0107 : CH7 0108 : CH8 0109 : CH9 0180 : zoom cancel 0181 : zoom 0182 : twice zoom 0184 : four times zoom 0191 : zoom move above 0192 : zoom move down 0193 : zoom move right 0194 : zoom move left 0400 : split 4 sreen sequential 0401 : 4(a) 0402 : 4(b) 0403 : 4(c) 0901 : 9a ★★(2) : Error type <Case of during playback> ★★(3) : Playback mode number during playback, display mode number during another condition. Playback mode number : refer to playback mode <Case of another condition> ★★(3) : Display mode number 03 : single screen 04 : split display 05 : zoom 07 : display error
Timer	TM★(1) #1	RC #2 EX,★★(2)TM★(1),★★(3) #2	★(1) : Timer recording ON/OFF 0 : Timer off 1 : Timer on ★★(2) : Error type ★★(3) : Timer mode number 00 : Timer off 01 : Timer on 02 : Timer error
Alarmhold	AD★(1) #1	RC #2 EX,★★(2)AD★(1),★★(3) #2	★(1) : Alarmhold setting 0 : Alarmhold off 1 : Alarmhold on ★★(2) : Error type ★★(3) : Alarm disable mode number 00 : Alarn disable off 01 : Alarm disable on
Copy	CP★(1) #1	RC #2 EX,★★(2)CP★(1),★★(3) #2	★(1) : Copy STOP/START 0 : STOP 1 : START ★★(2) : Error type ★★(3) : Copy mode number 00 : Stop 02 : Execute 04 : Copy error
Restore	RP★(1) #1	RC #2 EX,★★(2)RP★(1),★★(3) #2	★(1) : Restore STOP/START 0 : STOP 1 : START ★★(2) : Error type ★★(3) : Restore mode number 00 : Stop 02 : Execute 04 : Restore error
Acquire the recorded period	IF★★(1) #1	RC #2 EX,★★(2)IF★★(1),★★(3),★★(4)★★(5) ★★(6)★★(7)★★(8)★★(9)★★(10)★★(11) ★★(12),★★(13)★★(14)★★(15) ★★★★★(16) #2	★★(1) : Acquire the recorded period 0 : Main 1 : Copy ★★(2) : Error type ★★(3) : Acquire the information mode number 00 : Done 02 : Acquire information error ★★(4) : Strat year ★★(5) : Start month ★★(6) : Start day ★★(7) : Start hour ★★(8) : Start minute ★★(9) : Strat second ★★(10) : End year ★★(11) : End month ★★(12) : End day ★★(13) : End hour ★★(14) : End minute ★★(15) : End second ★★★★★(16) : Number of alarm list
Warning reset	WC★(1) #1	RC #2 EX,★★(2)WC★(1),★★(3) #2	★(1) : Warning reset 0 : Reset (only display) ★★(2) : Error type ★★(3) : System mode number (refer to Power ON/OFF command)
Menu initializing, loading or saving	MC★(1) #1	RC #2 EX,★★(2)MC★(1),★★(3) #2	★(1) : Menu initializing, loading or saving 0 : Initialize 1 : Load 2 : Save ★★(2) : Error type ★★(3) : System mode number (refer to Power ON/OFF command)
Dalete the date	CL★★(1) #1	RC #2 EX,★★(2)CL★★(1),★★(3) #2	★★(1) : Delete the data 01 : Main 03 : Copy ★★(2) : Error type ★★(3) : Data delete mode number 00 : Done 02 : Data delete error

• RS-232C [Direct operation specification] menu setting system command form
<TIME DATE/DISPLAY SETTINGS>

Menu	Commands	Status	Notes
TIME DATE ADJUST	<Menu setting> DW,★★★★★(1)★★★★★(2) #1 <Inquiry for setting information> DR,★★★★★(1) #1	<Writing of menu information> RC #2 EX,★★(3)DW,★★★★★(1) ★★★★★(2) #2 <Reading of menu information> RC #2 EX,★★(3)DR,★★★★★(1) ★★★★★(2) #2	★★★★★(1) : 00048 : Time (Year) 00049 : Time (Month) 00050 : Time (Day) 00053 : Time (Hour) 00054 : Time (Minute) 00055 : Time (Second) ★★★★★(2) : 00001 ~ 00099 : Time (Year) 00001 ~ 00012 : Time (Month) 00001 ~ 00031 : Time (Day) 00001 ~ 00023 : Time (Hour) 00000 ~ 00059 : Time (Minute) 00000 ~ 00059 : Time (Second) ★★(3) : Error type
DISPLAY MODE	↑	↑	★★★★★(1) : 00033 ★★★★★(2) : 00001 ~ 00006 ★★(3) : Error type
OSD LOCATION SETTING	↑	↑	★★★★★(1) : 00034 ★★★★★(2) : 00000 ~ 00383 ★★(3) : Error type
CAMERA DISPLAY	↑	↑	★★★★★(1) : 00035 ★★★★★(2) : 00000 ~ 00003 00000 : NONE 00001 : CAMERA SETTING 00002 : TITLE 00003 : COMMENT ★★(3) : Error type
CAMERA TITLE/ MEMO SETTING	<Menu setting> DW02,★★★★★(1)★★★★★(2) <Inquiry for setting information> DR02,★★★★★(1)	<Writing of menu information> RC #2 EX,★★(3)DW02,★★★★★(1) ★★★★★(2) #2 <Reading of menu information> RC #2 EX,★★(3)DR02,★★★★★(1) ★★★★★(2) #2	★★★★★(1) : CH1 : 00080 ~ 00095 CH2 : 00096 ~ 00111 CH3 : 00112 ~ 00127 CH4 : 00128 ~ 00143 CH5 : 00144 ~ 00159 CH6 : 00160 ~ 00175 CH7 : 00176 ~ 00191 CH8 : 00192 ~ 00207 CH9 : 00208 ~ 00223 Memo : 05329 ~ 05344 ★★★★★(2) : (Refer to CHARACTER CODE LIST) ★★(3) : Error type
DUPLEX MODE DISPLAY	<Menu setting> DW,★★★★★(1)★★★★★(2) #1 <Inquiry for setting information> DR,★★★★★(1) #1	<Writing of menu information> RC #2 EX,★★(3)DW,★★★★★(1) ★★★★★(2) #2 <Reading of menu information> RC #2 EX,★★(3)DR,★★★★★(1) ★★★★★(2) #2	★★★★★(1) : 05282 ★★★★★(2) : 00000 : OFF 00001 : TOP 00002 : BOTTOM ★★(3) : Error type

• RS-232C [Direct operation specification] menu setting system command form
<MPX DISPLAY SETTINGS>

Menu	Commands	Status	Notes
SPIT 4 SCREEN SETTING	<Menu setting> DW,★★★★★(1)★★★★★(2) #1 <Inquiry for setting information> DR,★★★★★(1) #1	<Writing of menu information> RC #2 EX,★★(3)DW,★★★★★(1) ★★★★★(2) #2 <Reading of menu information> RC #2 EX,★★(3)DR,★★★★★(1) ★★★★★(2) #2	SPLIT 4(a) ★★★★★(1) : 00368 ~ 00371 00368 : Top - left 00369 : Top - right 00370 : Bottom - left 00371 : Bottom - right SPLIT 4(b) ★★★★★(1) : 00384 ~ 00387 00384 : Top - left 00385 : Top - right 00386 : Bottom - left 00387 : Bottom - right SPLIT 4(c) ★★★★★(1) : 00400 ~ 00403 00400 : Top - left 00401 : Top - right 00402 : Bottom - left 00403 : Bottom - right ★★★★★(2) : 00000 ~ 00008 00000 : CH1 00001 : CH2 00002 : CH3 00004 : CH4 00005 : CH5 00005 : CH6 00006 : CH7 00007 : CH8 00008 : CH9 ★★(3) : Error type
SPLIT 9 SCREEN SETTING	↑	↑	SPLIT 9 ★★★★★(1) : 00432 ~ 00440 00432 : Top - left 00433 : Top - middle 00434 : Top - right 00435 : Middle - left 00436 : Middle - middle 00437 : Middle - right 00438 : Bottom - left 00439 : Bottom - middle 00440 : Bottom - right ★★★★★(2) : 00000 ~ 00008 00000 : CH1 00001 : CH2 00002 : CH3 00004 : CH4 00005 : CH5 00005 : CH6 00006 : CH7 00007 : CH8 00008 : CH9 ★★(3) : Error type
SEQUENCE SETTING SEQ. - CH.	↑	↑	★★★★★(1) : 00480 ~ 00488 00480 : 1 00481 : 2 00482 : 3 00483 : 4 00484 : 5 00485 : 6 00486 : 7 00487 : 8 00488 : 9 ★★★★★(2) : 00000 ~ 00008 00000 : CH1 00001 : CH2 00002 : CH3 00004 : CH4 00005 : CH5 00005 : CH6 00006 : CH7 00007 : CH8 00008 : CH9 ★★(3) : Error type
SEQUENCE SETTING SPLIT 4 SETTING	↑	↑	★★★★★(1) : 00489 ★★★★★(2) : 00001 : 4ab 00002 : 4abc ★★(3) : Error type
SEQUENCE SETTING TIME SETTING	↑	↑	★★★★★(1) : 00512 ~ 00521 00512 : SEQ. 1 00513 : SEQ. 2 00514 : SEQ. 3 00515 : SEQ. 4 00516 : SEQ. 5 00517 : SEQ. 6 00518 : SEQ. 7 00519 : SEQ. 8 00520 : SEQ. 9 00521 : SPLIT 4 ★★★★★(2) : 00000 ~ 00030 (second) ★★(3) : Error type
INTERLASE	↑	↑	★★★★★(1) : 00339 ★★★★★(2) : 00000 : OFF 00001 : ON ★★(3) : Error type
COVERT CAMERA SETTING	↑	↑	★★★★★(1) : 00528 ~ 00536 00528 : 1 00529 : 2 00530 : 3 00531 : 4 00532 : 5 00533 : 6 00534 : 7 00535 : 8 00536 : 9 ★★★★★(2) : 00000 : OFF 00001 : ON ★★(3) : Error type
ALARM DISPLAY	↑	↑	★★★★★(1) : 00544 ★★★★★(2) : 00000 : OFF 00001 : ON ★★(3) : Error type

• RS-232C [Direct operation specification] menu setting system command form <MOTION DETECTION SETTINGS>

Menu	Commands	Status	Notes
SELECTION CAMERA NUMBER	<Menu setting> DW,★★★★★(1)★★★★★(2) #1 <Inquiry for setting information> DR,★★★★★(1) #1	<Writing of menu information> RC #2 EX,★★(3)DW,★★★★★(1) ★★★★★(2) #2 <Reading of menu information> RC #2 EX,★★(3)DR,★★★★★(1) ★★★★★(2) #2	★★★★★(1) : 00576 ~ 00584 00576 : CH1 00577 : CH2 00578 : CH3 00579 : CH4 00580 : CH5 00581 : CH6 00582 : CH7 00583 : CH8 00585 : CH9 ★★★★★(2) : 00000 : OFF 00001 : ON ★★(3) : Error type
SET DETECTION MASK	↑	↑	★★★★★(1) : 00656 ~ 02383 00656 ~ 00847 : CH1 00848 ~ 01039 : CH2 01040 ~ 01231 : CH3 01232 ~ 01423 : CH4 01424 ~ 01615 : CH5 01616 ~ 01807 : CH6 01808 ~ 01999 : CH7 02000 ~ 02191 : CH8 02192 ~ 02383 : CH9 ★★★★★(2) : 00000 : OFF 00001 : ON ★★(3) : Error type
SENSITIVITY	↑	↑	★★★★★(1) : 00608 ~ 00616 00608 : CH1 00609 : CH2 00610 : CH3 00611 : CH4 00612 : CH5 00613 : CH6 00614 : CH7 00615 : CH8 00616 : CH9 ★★★★★(2) : 00000 ~ 00004 00000 : HIGH • • • • • LOW 00001 : HIGH • • • • < LOW 00002 : HIGH • • • < < LOW 00003 : HIGH • • < < < LOW 00004 : HIGH < < < < < LOW ★★(3) : Error type
MOTION THRESHOLD	↑	↑	★★★★★(1) : 00624 ~ 00632 00624 : CH1 00625 : CH2 00626 : CH3 00627 : CH4 00628 : CH5 00629 : CH6 00630 : CH7 00631 : CH8 00632 : CH9 ★★★★★(2) : 00001 ~ 00192 (POINT) ★★(3) : Error type

• RS-232C [Direct operation specification] menu setting system command form
<RECORD SETTINGS>

Menu	Commands	Status	Notes
RECORD SETTING PPS	<Menu setting> DW,★★★★★(1)★★★★★(2) #1 <Inquiry for setting information> DR,★★★★★(1) #1	<Writing of menu information> RC #2 EX,★★(3)DW,★★★★★(1) ★★★★★(2) #2 <Reading of menu information> RC #2 EX,★★(3)DR,★★★★★(1) ★★★★★(2) #2	★★★★★(1) : 04032 ~ 04040 04032 : CH1 04033 : CH2 04034 : CH3 04035 : CH4 04036 : CH5 04037 : CH6 04038 : CH7 04039 : CH8 04040 : CH9 ★★★★★(2) : 65535 : – – – – – 00001 : 25P 00002 : 12.5P 00003 : 8.33P 00004 : 6.25P 00005 : 5P 00006 : 4.17P 00010 : 3.13P 00015 : 2.5P 00030 : 1P 00060 : 0.5P 00120 : 0.25P 00240 : 0.13P ★★(3) : Error type
RECORD SETTING GRADE	↑	↑	★★★★★(1) : 04064 ~ 04072 04064 : CH1 04065 : CH2 04066 : CH3 04067 : CH4 04068 : CH5 04069 : CH6 04070 : CH7 04071 : CH8 04072 : CH9 ★★★★★(2) : 00000 : SUPER 00001 : HIGH 00002 : MEDIUM 00003 : STD(STANDARD) 00004 : BASIC ★★(3) : Error type
RECORD SETTING A-PPS	↑	↑	★★★★★(1) : 04048 ~ 04056 04048 : CH1 04049 : CH2 04050 : CH3 04051 : CH4 04052 : CH5 04053 : CH6 04054 : CH7 04055 : CH8 04056 : CH9 ★★★★★(2) : 65535 : – – – – – 00001 : 25P 00002 : 12.5P 00003 : 8.33P 00004 : 6.25P 00005 : 5P 00006 : 4.17P 00010 : 3.13P 00015 : 2.5P 00030 : 1P 00060 : 0.5P 00120 : 0.25P 00240 : 0.13P ★★(3) : Error type
RECORD SETTING A-GRADE	↑	↑	★★★★★(1) : 04080 ~ 04088 04080 : CH1 04081 : CH2 04082 : CH3 04083 : CH4 04084 : CH5 04085 : CH6 04086 : CH7 04087 : CH8 04088 : CH9 ★★★★★(2) : 00000 : SUPER 00001 : HIGH 00002 : MEDIUM 00003 : STD(STANDARD) 00004 : BASIC ★★(3) : Error type
RECORD SETTING ALARM MODE	↑	↑	★★★★★(1) : 05283 ★★★★★(2) : 00000 : ALL 00001 : ALARM 00002 : ALARM PLUS ★★(3) : Error type
RECORD SETTING ALARM REC DURATION	↑	↑	★★★★★(1) : 03985 ★★★★★(2) : 00000 ~ 03600 00000 : MAN 00002 : 2S 00005 : 5S 00010 : 10S 00015 : 15S 00030 : 30S 00045 : 45S 00060 : 1M 00120 : 2M 00300 : 5M 00600 : 10M 01200 : 20M 01800 : 30M 03600 : 60M ★★(3) : Error type
RECORD SETTING PRE ALARM REC	↑	↑	★★★★★(1) : 03986 ★★★★★(2) : 00001 ~ 00003,00255 00001 : SHORT 00002 : MEDIUM 00003 : LONG 00255 : OFF ★★(3) : Error type

• RS-232C [Direct operation specification] menu setting system command form
<TIMER PROGRAM SETTINGS>

Menu	Commands	Status	Notes
SELECTED PATTERN	<Menu setting> DW,★★★★★(1)★★★★★(2) #1 <Inquiry for setting information> DR,★★★★★(1) #1	<Writing of menu information> RC #2 EX,★★(3)DW,★★★★★(1) ★★★★★(2) #2 <Reading of menu information> RC #2 EX,★★(3)DR,★★★★★(1) ★★★★★(2) #2	★★★★★(1) : 04112 ★★★★★(2) : 00000 : P1 00001 : P2 00002 : P3 ★★(3) : Error type
TIMER PROGRAM	<Menu setting> DW01,★★(1)★★★★★(2) ★★★★★(3)★★★★★(4) ★★★★★(5)★★★★★(6) ★★★★★(7)★★★★★(8) #1 <Inquiry for setting information> DR01,★★(1) #1	<Writing of menu information> RC #2 EX,★★(9)DW01,★★(1) ★★★★★(2)★★★★★(3)★★★★★(4) ★★★★★(5)★★★★★(6)★★★★★(7) ★★★★★(8) #2 <Reading of menu information> RC #2 EX,★★(9)DR01,★★(1) ★★★★★(2)★★★★★(3)★★★★★(4) ★★★★★(5)★★★★★(6)★★★★★(7) ★★★★★(8) #2	★★★★★(1) : PROGRAM NUMBER 00 : P1 - 1 01 : P1 - 2 02 : P1 - 3 03 : P1 - 4 04 : P1 - 5 05 : P1 - 6 06 : P1 - 7 07 : P1 - 8 08 : P2 - 1 09 : P2 - 2 10 : P2 - 3 11 : P2 - 4 12 : P2 - 5 13 : P2 - 6 14 : P2 - 7 15 : P2 - 8 16 : P3 - 1 17 : P3 - 2 18 : P3 - 3 19 : P3 - 4 20 : P3 - 5 21 : P3 - 6 22 : P3 - 7 23 : P3 - 8 ★★★★★(2) : Day of the week 00000 : SUN 00001 : MON 00002 : TUE 00003 : WED 00004 : THU 00005 : FRI 00006 : SAT 00128 : DAY 00129 : SPL 00130 : HOL 00025 : - - - ★★★★★(3) : Start time (Hour) 00000 ~ 00023 (Hour) 00025 : - - - ★★★★★(4) : Start time (Minute) 00000 ~ 00059 (Time) 00025 : - - - ★★★★★(5) : End time (Hour) 00000 ~ 00023 (Hour) 00025 : - - - ★★★★★(6) : End time (Minute) 00000 ~ 00059 (Time) 00025 : - - - ★★★★★(7) : Selected pattern 00001 : A 00002 : B 00003 : C 00004 : C 00016 : SKIP 00025 : - - - ★★★★★(8) : Motion detection setting 00000 : OFF 00001 : ON 00025 : - - - ★★(9) : Error type
TIMER PROGRAM SETTINGS ALARM MODE	<Menu setting> DW,★★★★★(1)★★★★★(2) #1 <Inquiry for setting information> DR,★★★★★(1) #1	<Writing of menu information> RC #2 EX,★★(3)DW,★★★★★(1) ★★★★★(2) #2 <Reading of menu information> RC #2 EX,★★(3)DR,★★★★★(1) ★★★★★(2) #2	★★★★★(1) : 05284 ~ 05287 05284 : A 05285 : B 05286 : C 05287 : D ★★★★★(2) : 00000 : ALL 00001 : ALARM 00002 : ALARM PLUS ★★(3) : Error type
TIMER PROGRAM SETTINGS DAY OF THE WEEK START DAY	↑	↑	★★★★★(1) : 04400 ~ 04402 04400 : P1 04401 : P2 04402 : P3 ★★★★★(2) : 00000 : SUN 00001 : MON 00002 : TUE 00003 : WED 00004 : THU 00005 : FRI 00006 : SAT ★★(3) : Error type
TIMER PROGRAM SETTINGS DAY OF THE WEEK END DAY	↑	↑	★★★★★(1) : 04416 ~ 04418 04416 : P1 04417 : P2 04418 : P3 ★★★★★(2) : 00000 : SUN 00001 : MON 00002 : TUE 00003 : WED 00004 : THU 00005 : FRI 00006 : SAT ★★(3) : Error type
HOLIDAY SETTING	↑	↑	★★★★★(1) : 04432 ~ 04471 04432 : Month 04433 : Date (1 - 1) 04434 : Month 04435 : Date (1 - 2) 04436 : Month 04437 : Date (1 - 3) 04438 : Month 04439 : Date (1 - 4) 04440 : Month 04441 : Date (2 - 1) 04442 : Month 04443 : Date (2 - 2) 04444 : Month 04445 : Date (2 - 3) 04446 : Month 04447 : Date (2 - 4) 04448 : Month 04449 : Date (3 - 1) 04450 : Month 04451 : Date (3 - 2) 04452 : Month 04453 : Date (3 - 3) 04454 : Month 04455 : Date (3 - 4) 04456 : Month 04457 : Date (4 - 1) 04458 : Month 04459 : Date (4 - 2) 04460 : Month 04461 : Date (4 - 3) 04462 : Month 04463 : Date (4 - 4) 04464 : Month 04465 : Date (5 - 1) 04466 : Month 04467 : Date (5 - 2) 04468 : Month 04469 : Date (5 - 3) 04470 : Month 04471 : Date (5 - 4) ★★★★★(2) : Month : 00001 ~ 00012 00025 : NONE Date : 00001 ~ 00031 00025 : NONE ★★(3) : Error type

• RS-232C [Direct operation specification] menu setting system command form
<TIMER PROGRAM SETTINGS> (Continued)

Menu	Commands	Status	Notes
TIMER PROGRAM SETTINGS REC MODE	<Menu setting> DW,★★★★★(1)★★★★★(2) #1 <Inquiry for setting information> DR,★★★★★(1) #1	<Writing of menu information> RC #2 EX,★★(3)DW,★★★★★(1) ★★★★★(2) #2 <Reading of menu information> RC #2 EX,★★(3)DR,★★★★★(1) ★★★★★(2) #2	★★★★★(1) : 04480 : A 04482 : B 04484 : C 04486 : D ★★★★★(2) : 00000 : NORMAL & ALARM 00001 : PRE ALARM ★★(3) : Error type
TIMER PROGRAM SETTINGS PPS	↑	↑	★★★★★(1) : 04560 ~ 04595 04560 : A - CH1 04561 : A - CH2 04562 : A - CH3 04563 : A - CH4 04564 : A - CH5 04565 : A - CH6 04566 : A - CH7 04567 : A - CH8 04568 : A - CH9 04569 : B - CH1 04570 : B - CH2 04571 : B - CH3 04572 : B - CH4 04573 : B - CH5 04574 : B - CH6 04575 : B - CH7 04576 : B - CH8 04577 : B - CH9 04578 : C - CH1 04579 : C - CH2 04580 : C - CH3 04581 : C - CH4 04582 : C - CH5 04583 : C - CH6 04584 : C - CH7 04585 : C - CH8 04586 : C - CH9 04587 : D - CH1 04588 : D - CH2 04589 : D - CH3 04590 : D - CH4 04591 : D - CH5 04592 : D - CH6 04593 : D - CH7 04594 : D - CH8 04595 : D - CH9 ★★★★★(2) : 65535 : – – – – – 00001 : 25P 00002 : 12.5P 00003 : 8.33P 00004 : 6.25P 00005 : 5P 00006 : 4.17P 00010 : 3.13P 00015 : 2.5P 00030 : 1P 00060 : 0.5P 00120 : 0.25P 00240 : 0.13P ★★(3) : Error type
TIMER PROGRAM SETTINGS GRADE	↑	↑	★★★★★(1) : 04688 ~ 04723 04688 : A - CH1 04689 : A - CH2 04690 : A - CH3 04691 : A - CH4 04692 : A - CH5 04693 : A - CH6 04694 : A - CH7 04695 : A - CH8 04696 : A - CH9 04697 : B - CH1 04698 : B - CH2 04699 : B - CH3 04700 : B - CH4 04701 : B - CH5 04702 : B - CH6 04703 : B - CH7 04704 : B - CH8 04705 : B - CH9 04706 : C - CH1 04707 : C - CH2 04708 : C - CH3 04709 : C - CH4 04710 : C - CH5 04711 : C - CH6 04712 : C - CH7 04713 : C - CH8 04714 : C - CH9 04715 : D - CH1 04716 : D - CH2 04717 : D - CH3 04718 : D - CH4 04719 : D - CH5 04720 : D - CH6 04721 : D - CH7 04722 : D - CH8 04723 : D - CH9 ★★★★★(2) : 00000 : SUPER 00001 : HIGH 00002 : MEDIUM 00003 : STD(STANDARD) 00004 : BASIC ★★(3) : Error type
TIMER PROGRAM SETTINGS A-PPS	↑	↑	★★★★★(1) : 04624 ~ 04659 04624 : A - CH1 04625 : A - CH2 04626 : A - CH3 04627 : A - CH4 04628 : A - CH5 04629 : A - CH6 04630 : A - CH7 04631 : A - CH8 04632 : A - CH9 04633 : B - CH1 04634 : B - CH2 04635 : B - CH3 04636 : B - CH4 04637 : B - CH5 04638 : B - CH6 04639 : B - CH7 04640 : B - CH8 04641 : B - CH9 04642 : C - CH1 04643 : C - CH2 04644 : C - CH3 04645 : C - CH4 04646 : C - CH5 04647 : C - CH6 04648 : C - CH7 04649 : C - CH8 04650 : C - CH9 04651 : D - CH1 04652 : D - CH2 04653 : D - CH3 04654 : D - CH4 04655 : D - CH5 04656 : D - CH6 04657 : D - CH7 04658 : D - CH8 04659 : D - CH9 ★★★★★(2) : 65535 : – – – – – 00001 : 25P 00002 : 12.5P 00003 : 8.33P 00004 : 6.25P 00005 : 5P 00006 : 4.17P 00010 : 3.13P 00015 : 2.5P 00030 : 1P 00060 : 0.5P 00120 : 0.25P 00240 : 0.13P ★★(3) : Error type

• RS-232C [Direct operation specification] menu setting system command form <TIMER PROGRAM SETTINGS> (Continued)

Menu	Commands	Status	Notes
TIMER PROGRAM SETTINGS A-GRADE	<Menu setting> DW,★★★★★(1)★★★★★(2) #1 <Inquiry for setting information> DR,★★★★★(1) #1	<Writing of menu information> RC #2 EX,★★(3)DW,★★★★★(1) ★★★★★(2) #2 <Reading of menu information> RC #2 EX,★★(3)DR,★★★★★(1) ★★★★★(2) #2	★★★★★(1) : 04752 ~ 04787 04752 : A - CH1 04753 : A - CH2 04754 : A - CH3 04755 : A - CH4 04756 : A - CH5 04757 : A - CH6 04758 : A - CH7 04759 : A - CH8 04760 : A - CH9 04761 : B - CH1 04762 : B - CH2 04763 : B - CH3 04764 : B - CH4 04765 : B - CH5 04766 : B - CH6 04767 : B - CH7 04768 : B - CH8 04769 : B - CH9 04770 : C - CH1 04771 : C - CH2 04772 : C - CH3 04773 : C - CH4 04774 : C - CH5 04775 : C - CH6 04776 : C - CH7 04777 : C - CH8 04778 : C - CH9 04779 : D - CH1 04780 : D - CH2 04781 : D - CH3 04782 : D - CH4 04783 : D - CH5 04784 : D - CH6 04785 : D - CH7 04786 : D - CH8 04787 : D - CH9 ★★★★★(2) : 00000 : SUPER 00001 : HIGH 00002 : MEDIUM 00003 : STD(STANDARD) 00004 : BASIC ★★(3) : Error type
TIMER PROGRAM SETTINGS ALARM REC DURATION	↑	↑	★★★★★(1) : 04102 ★★★★★(2) : 00000 ~ 03600 00000 : MAN 00002 : 2S 00005 : 5S 00010 : 10S 00015 : 15S 00030 : 30S 00045 : 45S 00060 : 1M 00120 : 2M 00300 : 5M 00600 : 10M 01200 : 20M 01800 : 30M 03600 : 60M ★★(3) : Error type
TIMER PROGRAM SETTINGS PRE ALARM REC	↑	↑	★★★★★(1) : 04103 ★★★★★(2) : 00001 ~ 00003 00001 : SHORT 00002 : MEDIUM 00003 : LONG ★★(3) : Error type

• RS-232C [Direct operation specification] menu setting system command form <INFORMATION/SERVICE>

Menu	Commands	Status	Notes
HDD REPEAT REC	<Menu setting> DW,★★★★★(1)★★★★★(2) #1 <Inquiry for setting information> DR,★★★★★(1) #1	<Writing of menu information> RC #2 EX,★★(3)DW,★★★★★(1) ★★★★★(2) #2 <Reading of menu information> RC #2 EX,★★(3)DR,★★★★★(1) ★★★★★(2) #2	★★★★★(1) : 04832 ★★★★★(2) : 00000 : OFF 00001 : ON 00002 : REC•STANDBY ★★(3) : Error type
HDD REPEAT PALY	↑	↑	★★★★★(1) : 04834 ★★★★★(2) : 00000 : OFF 00001 : ON ★★(3) : Error type
IM-CHECK PLAY	↑	↑	★★★★★(1) : 04821 ★★★★★(2) : 00000 : OFF 00001 : ON ★★(3) : Error type
SEQUENTIAL PLAY	↑	↑	★★★★★(1) : 04822 ★★★★★(2) : 00000 : OFF 00001 : ON ★★(3) : Error type
AUDIO RECORDING	↑	↑	★★★★★(1) : 04817 ★★★★★(2) : 00000 : OFF 00001 : ON ★★(3) : Error type
MODE OUT	↑	↑	★★★★★(1) : 04848 ~ 04851 04848 : MODE OUT 1 04849 : MODE OUT 2 04850 : MODE OUT 3 04851 : MODE OUT 4 ★★★★★(2) : 00000 : OFF 00001 : REC 00002 : PLAY 00003 : REMAIN 00004 : POWR 00006 : M-DET 00009 : A-REC ★★(3) : Error type
KEY SOUND	↑	↑	★★★★★(1) : 04853 ★★★★★(2) : 00000 : OFF 00001 : ON ★★(3) : Error type
BUZZER	↑	↑	★★★★★(1) : 04855 ★★★★★(2) : 00000 : OFF 00001 : REMAIN 00002 : WRNG 00003 : ALARM ★★(3) : Error type
REMAIN HDD DEVICE	↑	↑	★★★★★(1) : 04864 ★★★★★(2) : 00000 : OFF 00001 : HDD ★★(3) : Error type
REMAIN HDD	↑	↑	★★★★★(1) : 04865 ★★★★★(2) : 00002 : 2% 00004 : 4% 00006 : 6% 00008 : 8% 00010 : 10% 00015 : 15% 00020 : 20% 00030 : 30% 00040 : 40% 00050 : 50% ★★(3) : Error type
HDD REMAIN	↑	↑	★★★★★(1) : 04880 ★★★★★(2) : 00002 : 2% 00004 : 4% 00006 : 6% 00008 : 8% 00010 : 10% 00015 : 15% 00020 : 20% 00030 : 30% 00040 : 40% 00050 : 50% 00255 : OFF ★★(3) : Error type
EMERGENCY REC DURATION	↑	↑	★★★★★(1) : 04102 ★★★★★(2) : 00000 ~ 03600 00060 : 1M 00120 : 2M 00300 : 5M 00600 : 10M 01200 : 20M 01800 : 30M 03600 : 60M ★★(3) : Error type
HDD FULL	↑	↑	★★★★★(1) : 05360 ★★★★★(2) : 00000 : OFF 00001 : ON ★★(3) : Error type

• RS-232C [Direct operation specification] menu setting system command form <INFORMATION/SERVICE> (Continued)

Menu	Commands	Status	Notes
RS-232C MODE	<Menu setting> DW,★★★★★(1)★★★★★(2) #1 <Inquiry for setting information> DR,★★★★★(1) #1	<Writing of menu information> RC #2 EX,★★(3)DW,★★★★★(1) ★★★★★(2) #2 <Reading of menu information> RC #2 EX,★★(3)DR,★★★★★(1) ★★★★★(2) #2	★★★★★(1) : 04896 ★★★★★(2) : 00001 : OFF 00002 : REMOTE A 00003 : REMOTE B ★★(3) : Error type
RS-232C SETTINGS TRANSMISSION RATE	↑	↑	★★★★★(1) : 04912 ★★★★★(2) : 01200 : 1200 02400 : 2400 04800 : 4800 09600 : 9600 19200 : 19200 ★★(3) : Error type
RS-233C SETTINGS DATA BIT LENGTH	↑	↑	★★★★★(1) : 04913 ★★★★★(2) : 00007 : 7 BIT 00008 : 8 BIT ★★(3) : Error type
RS-232C SETTINGS PARITY BIT	↑	↑	★★★★★(1) : 04914 ★★★★★(2) : 00000 : NONE 00001 : ODD 00002 : EVEN ★★(3) : Error type
RS-232C SETTINGS STOP BIT LENGTH	↑	↑	★★★★★(1) : 04915 ★★★★★(2) : 00001 : 1 BIT 00002 : 2 BIT ★★(3) : Error type
RS-232C SETTINGS DELIMITER	↑	↑	★★★★★(1) : 04916 ★★★★★(2) : 00000 : CR 00001 : CR•LF ★★(3) : Error type

• RS-232C [Direct operation specification] menu setting system command form
<SEARCH SELECTION>

Refer to the playback of [Direct opeation specification] opeartion setting system command form for search execution.

Menu	Commands	Status	Notes
TIME DATE SEARCH	<Menu setting> DW,★★★★★(1)★★★★★(2) #1 <Inquiry for setting information> DR,★★★★★(1) #1	<Writing of menu information> RC #2 EX,★★(3)DW,★★★★★(1) ★★★★★(2) #2 <Reading of menu information> RC #2 EX,★★(3)DR,★★★★★(1) ★★★★★(2) #2	★★★★★(1) : 05044 : Search time (Year) 05045 : Search time (Month) 05046 : Search time (Day) 05047 : Search time (Hour) 05048 : Search time (Minute) 05049 : Search time (Second) ★★★★★(2) : Year : 00001 ~ 00099 Month : 00001 ~ 00012 Day : 00001 ~ 00031 Hour : 00001 ~ 00023 Minute : 00000 ~ 00059 Second : 00000 ~ 00059 ★★(3) : Error type
INDEX SEARCH	↑	↑	★★★★★(1) : 05072 ★★★★★(2) : 00001 ~ 00099 ★★(3) : Error type
ALARM INDEX SEARCH	↑	↑	★★★★★(1) : 05088 ★★★★★(2) : 00001 ~ 00099 ★★(3) : Error type
ALARM LIST SEARCH DATE/TIME	↑	↑	★★★★★(1) : 05060 : List time mask (Year) 05061 : List time mask (Month) 05062 : List time mask (Day) 05063 : List time mask (Hour) 05064 : List time mask (Minute) 05065 : List time mask (Second) ★★★★★(2) : Year : 00001 ~ 00099 Month : 00001 ~ 00012 Day : 00001 ~ 00031 Hour : 00001 ~ 00023 Minute : 00000 ~ 00059 Second : 00000 ~ 00059 None mask : 00238 ★★(3) : Error type
SEARCH TYPE	<Inquiry for setting information> DR,★★★★★(1) #1	<Reading of menu information> RC #2 EX,★★(3)DR,★★★★★(1) ★★★★★(2) #2	★★★★★(1) : 05057 ★★★★★(2) : 00000 : TIME DATE 00001 : INDEX 00002 : ALARM INDEX 00003 : SKIP 00004 : ALARM LIST ★★(3) : Error type
PLAY DEVICE	<Menu setting> DW,★★★★★(1)★★★★★(2) #1 <Inquiry for setting information> DR,★★★★★(1) #1	<Writing of menu information> RC #2 EX,★★(3)DW,★★★★★(1) ★★★★★(2) #2 <Reading of menu information> RC #2 EX,★★(3)DR,★★★★★(1) ★★★★★(2) #2	★★★★★(1) : 05056 ★★★★★(2) : 00001 : HDD 00003 : CFC ★★(3) : Error type
SELECTION CAMERA NO.	↑	↑	★★★★★(1) : 05058 ★★★★★(2) : 00000 : CH1 00001 : CH2 00002 : CH3 00003 : CH4 00004 : CH5 00005 : CH6 00006 : CH7 00007 : CH8 00008 : CH9 00032 : ALL ★★(3) : Error type

• RS-232C [Direct operation specification] menu setting system command form
<COPY>

Menu	Commands	Status	Notes
COPY DIRECTION	<Inquiry for setting information> DR,★★★★★(1) #1	<Reading of menu information> RC #2 EX,★★(3)DR,★★★★★(1) ★★★★★(2) #2	★★★★★(1) : 05120 ★★★★★(2) : 00000 : HDD → CFC 00001 : CFC → HDD ★★(3) : Error type
COPY MODE	<Menu setting> DW,★★★★★(1)★★★★★(2) #1 <Inquiry for setting information> DR,★★★★★(1) #1	<Writing of menu information> RC #2 EX,★★(3)DW,★★★★★(1) ★★★★★(2) #2 <Reading of menu information> RC #2 EX,★★(3)DR,★★★★★(1) ★★★★★(2) #2	★★★★★(1) : 05121 ★★★★★(2) : 00000 : OVERWRIGHT 00001 : FIFO ★★(3) : Error type
COPY START/END	↑	↑	★★★★★(1) : 05136 : Copy start time (Year) 05137 : Copy start time (Month) 05138 : Copy start time (Day) 05139 : Copy start time (Hour) 05140 : Copy start time (Minute) 05141 : Copy start time (Second) 05142 : Copy end time (Year) 05143 : Copy end time (Month) 05144 : Copy end time (Day) 05145 : Copy end time (Hour) 05146 : Copy end time (Minute) 05147 : Copy end time (Second) ★★★★★(2) : Year : 00001 ~ 00099 Month : 00001 ~ 00012 Day : 00001 ~ 00031 Hour : 00001 ~ 00023 Minute : 00000 ~ 00059 Second : 00000 ~ 00059 ★★(3) : Error type
COPY TRANSFER PERIOD	↑	↑	★★★★★(1) : 05126 ★★★★★(2) : 00000 : START•END 00001 : START ★★(3) : Error type
RESTORE MODE	↑	↑	★★★★★(1) : 05152 ★★★★★(2) : 00000 : OVERWRIGHT 00001 : FIFO ★★(3) : Error type
RESTORE START/END	↑	↑	★★★★★(1) : 05168 : Restre start time (Year) 05169 : Restre start time (Month) 05170 : Restre start time (Day) 05171 : Restre start time (Hour) 05172 : Restre start time (Minute) 05173 : Restre start time (Second) 05174 : Restre end time (Year) 05175 : Restre end time (Month) 05176 : Restre end time (Day) 05177 : Restre end time (Hour) 05178 : Restre end time (Minute) 05179 : Restre end time (Second) ★★★★★(2) : Year : 00001 ~ 00099 Month : 00001 ~ 00012 Day : 00001 ~ 00031 Hour : 00001 ~ 00023 Minute : 00000 ~ 00059 Second : 00000 ~ 00059 ★★(3) : Error type
RESTORE TRANSFER PERIOD	↑	↑	★★★★★(1) : 05126 ★★★★★(2) : 00000 : START•END 00001 : START ★★(3) : Error type

• RS-232C [Direct operation specification] menu setting system command form
<ANOTHER SETTINGS>

Menu	Commands	Status	Notes
RECORDING PATARN	<Inquiry for setting information> DR,★★★★★(1) #1	<Writing of menu information> RC #2 EX,★★(3)DR,★★★★★(1) ★★★★★(2) #2	★★★★★(1) : 05268 ★★★★★(2) : 00000 : NORMAL ★★(3) : Error type
CHECK THE CONDITION	MD?	RC #2 EX,★★(26)MD,★★(1)★★(2)★★(3)★★(4) ★★(5)★★★★(6)★★(7)★★(8)★★(9) ★★(10)★★(11)★★(12)★★(13)★★(14) ★★(15)★★(16)★★(17)★★(18)★★(19) ★★(20)★★(21)★★(22)★★(23)★★(24) ★★(25) #2 (Each status corresponds to the last two digits of each operating mode within the condition change notification system.)	★★(1) : System condition ★★(2) : Key lock condition ★★(3) : Remote / local condition ★★(4) : Timer condition ★★(5) : Alarm hold condition ★★★★(6) : Menu condition ★★(7) : Recording condition ★★(8) : Playback condition ★★(9) : Display condition ★★(10) : Motion detection condition ★★(11) : Back up condition ★★(12) : Copy condition ★★(13) : Restore condition ★★(14) : Device control condition ★★(15) : Acquire information condition ★★(16) : Delete device condition ★★(17) : Data reset condition ★★(18) ~ ★★(25) : Reserved ★★(26) : Error type
CHECK THE CONDITION	ME?	RC #2 EX,★★(26)ME,★★(1)★★(2)★★(3)★★(4) ★★(5)★★★★(6)★★(7)★★(8)★★(9) ★★(10)★★(11)★★(12)★★(13)★★(14) ★★(15)★★(16)★★(17)★★(18)★★(19) ★★(20)★★(21)★★(22)★★(23)★★(24) ★★(25) #2 (Each status corresponds to the last two digits of each operating mode within the condition change notification system.)	★★(1) : System condition ★★(2) : Key lock condition ★★(3) : Remote / local condition ★★(4) : Timer condition ★★(5) : Alarm hold condition ★★★★(6) : Menu condition ★★(7) : Recording condition ★★(8) : Playback condition ★★(9) : Display condition ★★(10) : Motion detection condition ★★(11) : Back up condition ★★(12) : Copy condition ★★(13) : Restore condition ★★(14) : Device control condition ★★(15) : Acquire information condition ★★(16) : Delete device condition ★★(17) : Data reset condition ★★(18) ~ ★★(25) : Reserved ★★(26) : Error type (When there is a lag in response time of the unit during condition change, sending this command will read RS-232C status after readying the unit for response by clearing all remaining commands in the reception buffer.)
ACQUIRE THE ELAPSED TIME	UTO?	RC #2 EX,★★(2)UTO?,★★★★★★★★★ ★(1) #2	★★★★★★★★★★(1) : Elapsed time 0000000000 ~ 9999999999 (Time) ★★(2) : Error type
WRITE COMMENT DATA INFORMATION	COMD,★★(1)★★(2)★★★★★★★ ★★★★★★★★★★★★★★★ ★★★★★★★★(3) #1	RC #2 EX,★★(4)COMD,★★(1)★★(2)★★★★★ ★★★★★★★★★★★★★★★ ★★★★★★★★(3) #2	★★(1) : Camera number 00 : CH1 01 : CH2 02 : CH3 03 : CH4 04 : CH5 05 : CH6 06 : CH7 07 : CH8 08 : CH9 ★★(2) : Caracter size (00 - 32) ★★★★★★★★★★★★★★★★★★★★★★★★★★★★ ★★★(3) : Comment ★★(4) : Error type
WRITE COMMENT	COMS,★★(1) #1	RC #2 EX,★★(2)COMS,★★(1) #2	★★(1) : Camera number 00 : CH1 01 : CH2 02 : CH3 03 : CH4 04 : CH5 05 : CH6 06 : CH7 07 : CH8 08 : CH9 ★★(2) : Error type
DELETE THE COMMENT DISPLAY	DC #1	RC #2 EX,★★(2)00DC #2	

• RS-232C [False operation panel] command form

Button	Commands	Status	Notes
POWER	KKP0	RC	POEWR ON/OFF
		EX,★★(2)KKP0	★★(2) : Error type
REC/STOP	KKR0	RC	RECORDING
		EX,★★(2)KKR0	
	KKR1	RC	STOP RECORDING
		EX,★★(2)KKR1	★★(2) : Error type
STOP	KKB0	RC	STOP PLAYBACK
		EX,★★(2)KKB0	★★(2) : Error type
PLAY	KKB1	RC	PLAYBACK
		EX,★★(2)KKB1	★★(2) : Error type
REV.PLAY (REVERSE PLAY)	KKB2	RC	REVERSE PLAYBACK
		EX,★★(2)KKB2	★★(2) : Error type
PAUSE	KKB4	RC	PAUSE
		EX,★★(2)KKB4	★★(2) : Error type
TIMER	KKT0	RC	TIMER ON
		EX,★★(2)KKT0	
	KKT1	RC	TIMER OFF
		EX,★★(2)KKT1	★★(2) : Error type
ZOOM	KKZ	RC	ZOOM
		EX,★★(2)KKZ	★★(2) : Error type
SPLIT/SEQUENCE	KKE	RC	SPLIT / SEQUENCE
		EX,★★(2)KKE	★★(2) : Error type
camera number	KKD01	RC	CH1
		EX,★★(2)KKD01	
	KKD02	RC	CH2
		EX,★★(2)KKD02	
	KKD03	RC	CH3
		EX,★★(2)KKD03	
	KKD04	RC	CH4
		EX,★★(2)KKD04	
	KKD05	RC	CH5
		EX,★★(2)KKD05	
	KKD06	RC	CH6
		EX,★★(2)KKD06	
	KKD07	RC	CH7
		EX,★★(2)KKD07	
	KKD08	RC	CH8
		EX,★★(2)KKD08	
	KKD09	RC	CH9
		EX,★★(2)KKD09	★★(2) : Error type
LOCK	KKL0	RC	SIMPLE LOCK
		EX,★★(2)KKL0	
	KKL5	RC	PASSWORD LOCK
		EX,★★(2)KKL5	★★(2) : Error type
SET UP	KKM	RC	MENU
		EX,★★(2)KKM	★★(2) : Error type
COPY	KKC	RC	COPY
		EX,★★(2)KKC	★★(2) : Error type
SEARCH	KKK0	RC	SEARCH
		EX,★★(2)KKK0	★★(2) : Error type
W.R. (WARNING RESET)	KKW0	RC	WARNING RESET
		EX,★★(2)KKW0	
	KKW5	RC	WARNING RESET 5 second pressing
		EX,★★(2)KKW5	★★(2) : Error type
A.H. (ALARM HOLD)	KKA	RC	ALARM HOLD
		EX,★★(2)KKA	★★(2) : Error type
JOG	KKJ0	RC	JOG right turn
		EX,★★(2)KKJ0	
	KKJ1	RC	JOG left turn
		EX,★★(2)KKJ1	★★(2) : Error type
SHUTTLE	KKS00	RC	SHUTTLE center
		EX,★★(2)KKS00	
	KKS01	RC	SHUTTLE righ 1
		EX,★★(2)KKS01	
	KKS02	RC	SHUTTLE righ 2
		EX,★★(2)KKS02	
	KKS03	RC	SHUTTLE righ 3
		EX,★★(2)KKS03	
	KKS04	RC	SHUTTLE righ 4
		EX,★★(2)KKS04	
	KKS11	RC	SHUTTLE left 1
		EX,★★(2)KKS11	
	KKS12	RC	SHUTTLE left 2
		EX,★★(2)KKS12	
	KKS13	RC	SHUTTLE left 3
		EX,★★(2)KKS13	
	KKS14	RC	SHUTTLE left 4
		EX,★★(2)KKS14	★★(2) : Error type (Send SHUTTLE center command before send this command.)

• RS-232C Status condition change information system

Mode	Status	Notes
System mode	EX,AA,★★★★(1) #2	★★★★(1) : System mode 0100 : Power off 0103 : Power on 0106 : Setting menu 0107 : Copy menu 0108 : Search menu 0109 : Device ususal situation 010A : Device initialize 010B : Device reconstruction 010F : System unusual situation
Timer mode	↑	★★★★(1) : Timer mode 0500 : Timer off 0501 : Timer on 0502 : Timer error
Alarm disable mode	↑	★★★★(1) : Alarm disable mode 0600 : Alarm disable off 0601 : Alarm disable on
Recording mode	↑	★★★★(1) : Recording mode 0800 : Stop 0803 : Stop(pause) 0804 : Recording 0805 : Pre alarm recording 0806 : Alarm recording during pause 0807 : Alarm recording during recording 0808 : Alarm recording during Pre alarm recording 080A : Recording error
Playback mode	↑	★★★★(1) : Playback mode 0900 : Stop 0903 : Playback (1) 0904 : Reverse playback (1) 0905 : Playback pause (1) 0906 : Reverse playback pause (1) 0907 : Forward speed search (1) 0908 : Reverse speed search (1) 0909 : Fast forward (1) 090A : Rewind (1) 090B : Playback (2) 090C : Reverse playback (2) 090D : Playback pause (2) 090E : Reverse playback pause (2) 090F : Forward speed search (2) 0910 : Reverse speed search (2) 0911 : Fast forward (2) 0912 : Rewind (2) 0913 : Playback (3) 0914 : Reverse playback (3) 0915 : Playback pause (3) 0916 : Reverse playback pause (3) 0917 : Forward speed search (3) 0918 : Reverse speed search (3) 0919 : Fast forward (3) 091A : Rewind (3) 091C : Playback error (1) : Single screen , (2) : Split display, (3) : Zoom
Display mode	↑	★★★★(1) : Display mode 0A07 : Display error
Motion detection mode	↑	★★★★(1) : Motion detection mode 0B05 : Motion detection error
Copy mode	↑	★★★★(1) : Copy mode 0D00 : Stop 0D02 : Execute 0D04 : Copy error
Restore mode	↑	★★★★(1) : Restore mode 0E00 : Stop 0E02 : Execute 0E04 : Restore error
Acqire the information mode	↑	★★★★(1) : Acquire information mode 1000 : Done 1002 : Acquire information
Data delete mode	↑	★★★★(1) : Data delete mode 2000 : Done 2002 : Data delete error
Inform the NO SIGNAL condition	EX,AB11,★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★(1) #2	★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★ ★★(1) : Information the NO SIGNAL condition Output the NO SIGNAL condition (3 : Having signal, 2 : Judge having signal 1 : Judge not having signal, 0 : Not having signal) about 9CH(32CH) when the condition changes. But this information is effective to the camera whith is recording, so the information about the camera whitch is not recording is indefinite.
Inform the error warning	EX,AB,★★(1) #2	★★(1) : 12 : REC R/W ERROR 13 : REC SYSTEM ERROR 32 : COPY R/W EERROR 33 : COPY SYSTEM EERROR 34 : COPY OVERWRITE ERROR 35 : COPY EARLY WARNING ERROR 36 : COPY OVERWRITE WARNING 42 : RESTORE R/W ERROR 43 : RESTORE SYSTEM ERROR
Inform the data falsification error	EX,AB51,★★(1) #2	★★(1) : Camera number
Inform the renewal of Alarm number	EX,AC11,★★★★★(1) #2	★★★★★(1) : Renewal of Alarm number (Output when the Alarm number is renewed.)
Inform the position	EX,AC,★★(1),★★★(2) #2	★★(1) : Position 12 : Main device recording position 32 : Copy device recording position 42 : Restore device recording position ★★★(2) : 000 ~ 100 (%)

♦ Character code list

Character	·	(Space)	!	"	#	$	%	&	'	(
ASCII code	00012	00032	00033	00034	00035	00036	00037	00038	00039	00040

Character	)	✻	+	,	–	.	/			
ASCII code	00041	00042	00043	00044	00045	00046	00047			

Character	:	;	<	=	>	?	@			
ASCII code	00058	00059	00060	00061	00062	00063	00064			

Number	0	1	2	3	4	5	6	7	8	9
ASCII code	00048	00049	00050	00051	00052	00053	00054	00055	00056	00057

Alphabet	A	B	C	D	E	F	G	H	I	J	K	L	M
ASCII code	00065	00066	00067	00068	00069	00070	00071	00072	00073	00074	00075	00076	00077

Alphabet	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
ASCII code	00078	00079	00080	00081	00082	00083	00084	00085	00086	00087	00088	00089	00090

Alphabet	a	b	c	d	e	f	g	h	i	j	k	l	m
ASCII code	00097	00098	00099	00100	00101	00102	00103	00104	00105	00106	00107	00108	00109

Alphabet	n	o	p	q	r	s	t	u	v	w	x	y	z
ASCII code	00110	00111	00112	00113	00114	00115	00116	00117	00118	00119	00120	00121	00122

Comment search

Characters (character strings) inputted from a PC connected to this unit by RS-232C connection can be recorded as comments along with the video/audio. Recorded comments can be displayed during playback. Furthermore, recorded comments can be specified for search so that the video with the comment can be played back from the beginning.

♦ Comment search command code

Menu	Commands	Status	Notes
Comment search	PB★★(1)★★(2)★★(3)★★(4) ★★(5)★★★★★★★★★★★★★★ ★★★★★★★★★★★★★★★★ ★★★(6) #1	RC #2 EX,★★(7)PB★★(1)★★(2)★★(3)★★(4) ★★(5)★★★★★★★★★★★★★★ ★★★★★★★★★★★★★★★★ ★(6) #2	★★(1) : Comment search (80) ★★(2) : Search direction 00 : Forward 01 : Reverse ★★(3) : number of search time (01 ~ 99) ★★(4) : Camera number 00 : CH1 01 : CH2 02 : CH3 03 : CH4 04 : CH5 05 : CH6 06 : CH7 07 : CH8 08 : CH9 ★★(5) : Caracter size (00 - 32) ★★★★★★★★★★★★★★★★★★★★★★★★★★★★ ★★★(6) : Comment ★★(7) : Error type
WRITE COMMENT DATA INFORMATION	COMD,★★(1)★★(2)★★★★★★★ ★★★★★★★★★★★★★★★★ ★★★★★★★★★(3) #1	RC #2 EX,★★(4)COMD,★★(1)★★(2)★★★★★ ★★★★★★★★★★★★★★★★ ★★★★★★★★★(3) #2	★★(1) : Camera number 00 : CH1 01 : CH2 02 : CH3 03 : CH4 04 : CH5 05 : CH6 06 : CH7 07 : CH8 08 : CH9 ★★(2) : Caracter size (00 - 32) ★★★★★★★★★★★★★★★★★★★★★★★★★★★★ ★★★(3) : Comment ★★(4) : Error type
WRITE COMMENT	COMS,★★(1) #1	RC #2 EX,★★(2)COMS,★★(1) #2	★★(1) : Camera number 00 : CH1 01 : CH2 02 : CH3 03 : CH4 04 : CH5 05 : CH6 06 : CH7 07 : CH8 08 : CH9 ★★(2) : Error type
DELETE THE COMMENT DISPLAY	DC #1	RC #2 EX,★★(2)00DC #2	

♦ Characters can be use for command search

Alphabet	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
Character	(Space)	!	"	#	$	%	&	'	(	)	*	+	,	–	.	/	:	;	<	=	>	?	@			
Number	0	1	2	3	4	5	6	7	8	9																

♦ Sample opreation

1) Record character string “ABCDEF” as a comment along with the video. (When “CR/CR•LF” in the <RS-232C SETTING> screen is set to “CR”.)

The operation is performed on a PC.
1. Set the character (or characters string) to be recorded;
2. Record the selected character(s).

By using the CM command, characters which have been set once can be recorded any number of times. To record a different character set, use the CW command.

➲ Up to 32 characters can be inputted.

2) Display the recorded comment.
1. Select <SET UP> → “CAMERA DISPLAY” in the <TIME DATE/DISPLAY SETTINGS> screen. Display “COMMENT” and confirm.

➲ The number of characters displayed on the screen : all 32 for single screen, first 10 for SPLIT4, and first 6 for SPLIT9.

3) Skip to the scene with characters “ABCDEF”. (When “DELIMITER” in the <RS-232C> screen is set to “CR”.)
The operation is performed on a PC.
After comment search, playback is performed using single screen display.

ⓘ Comment search can be performed even when playback is stopped, during still frame playback, playback or recording.

ⓘ The unit will fast forward or rewind until it finds the character string, then shift into still frame mode.

ⓘ Comment searches may be time-consuming as the process involves searching through all the data.

➲ If the unit does not find the character string, it will stop automatically.

Recording time table

■ Continuous recording time table

♦ HDD continuous recording time (for 80GB drive)
Displays the estimated recordable time (when recording on a 80GB HDD).

ⓘ The following recording time table is only for when operating with one camera and the recording interval is set the same.

• Without Audio recording

PPS / GRADE	25P	12.5P	8.33P	6.25P	5P	4.17P	3.13P	2.5P	1P	0.5P	0.25P	0.13P	NUMBER OF RECORDING FIELD
SUPER	18h	37h	56h	74h	93h	112h	149h	187h	468h	936h	1872h	3744h	1,710,000
HIGH	24h	49h	74h	99h	123h	148h	198h	247h	619h	1238h	2476h	4953h	2,255,000
STD	40h	80h	120h	161h	201h	241h	322h	403h	1008h	2016h	4032h	8064h	3,654,000
BASIC	56h	113h	170h	226h	283h	340h	453h	567h	1418h	2836h	5673h	11347h	5,132,000
LONG	125h	251h	377h	503h	629h	755h	1006h	1258h	3146h	6292h	12585h	25171h	11,352,000

• With Audio recording <Audio recording using 12.8KHz PCM sampling is possible.>

PPS / GRADE	25P	12.5P	8.33P	6.25P	5P	4.17P	3.13P	2.5P	1P	0.5P	0.25P	0.13P
SUPER	17h	35h	53h	71h	84h	101h	135h	161h	361h	594h	1872h	3744h
HIGH	23h	47h	69h	92h	115h	133h	170h	213h	446h	679h	2476h	4953h
STD	39h	77h	113h	147h	180h	210h	267h	325h	619h	892h	4032h	8064h
BASIC	55h	106h	154h	199h	240h	278h	357h	420h	748h	1022h	5673h	11347h
LONG	110h	217h	304h	382h	452h	516h	619h	705h	1072h	1281h	12585h	25171h

ⓘ Continuous recordable time and the estimated time displayed on the menu screen is the continuous recordable time when operating this unit and is not the product warranty period. Furthermore, it is not the period that guarantees the operation of used parts.

ⓘ Audio recording cannot be performed when “PPS” of “RECORD SETTING” are all set to smaller than “0.33F” when setting normal recording.

• In this case, (🔇 X) appears to the right of <ESTD TIME>.

• When the camera selection during for alarm recording is as follows : (In this case, (🔇 X) will not appear.)
“ALL”, “ALARM” : “A-PPS” of all cameras set for alarm recording are set to smaller than “0.33P”.
“ALARM PLUS” : “PPS” and “A-PPS” of all cameras set for normal recording and alarm recording are set to smaller than “0.33P”.

ⓘ ▭ : Since audio recording cannot be made during recording interval of 0.25P and 0.13P, even when the recording with audio recording set to ON, the following recording time table is the same for when setting audio recording to OFF.

♦ Compact Flash Card continuous recording time (for 64MB drive)
Displays the estimated recordable time (when recording on a 64MB Compact Flash Card).

• Without Audio recording

GRADE \ PPS	25P	12.5P	8.33P	6.25P	5P	4.17P	3.13P	2.5P	1P	0.5P	0.25P	0.13P	NUMBER OF RECORDING FIELD
SUPER	50s	1min40s	2min30s	3min20s	4min10s	5min	6min40s	8min30s	21min	42min	1h20min	2h50min	1,200
HIGH	1min	2min10s	3min20s	4min30s	5min30s	6min40s	9min	11min	28min	56min	1h50min	3h40min	1,600
STD	1min50s	3min40s	5min30s	7min20s	9min10s	11min	14min	18min	45min	1h30min	3h	6h	2,700
BASIC	2min30s	5min	7min40s	10min	12min	15min	20min	25min	1h	2h	4h10min	8h30min	3,800
LONG	5min40s	11min	17min	22min	28min	34min	45min	57min	2h20min	4h40min	9h30min	19h	8,500

• With Audio recording <Audio recording using 12.8KHz PCM sampling is possible.>

GRADE \ PPS	25P	12.5P	8.33P	6.25P	5P	4.17P	3.13P	2.5P	1P	0.5P	0.25P	0.13P
SUPER	40s	1min30s	2min20s	3min10s	3min50s	4min30s	6min10S	7min20S	16min	27min	1h20min	2h50min
HIGH	1min	2min10s	3min	4min10s	5min10s	6min	7min40S	9min40S	29min	30min	1h50min	3h40min
STD	1min40s	3min30s	5min	6min40s	8min10s	9min30s	12min	14min	28min	40min	3h	6h
BASIC	2min30s	4min50s	7min	9min	10min	12min	16min	19min	34min	46min	4h10min	8h30min
LONG	5min	9min50s	13min	17min	20min	23min	28min	32min	48min	58min	9h30min	19h

ⓘ ▭ : Since audio recording cannot be made during recording interval of 0.25P and 0.13P, even when the recording with audio recording set to ON, the following recording time table is the same for when setting audio recording to OFF.

■ Pre-alarm recording time table

ⓘ The following recording time table is only for when operating with one camera and the recording interval is set the same.

• Without Audio recording, recording duration “LONG”

GRADE \ PPS	25P	12.5P	8.33P	6.25P	5P	4.17P	3.13P	2.5P	1P	0.5P	0.25P	0.13P	NUMBER OF RECORDING FIELD
SUPER	2.6s	5.2s	7.9s	10s	13s	15s	21s	26s	1min	2min10s	4min20s	8min40s	66
HIGH	3.4s	6.9s	10s	13s	17s	20s	27s	34s	1min20s	2min50s	5min40s	11min	87
STD	5.6s	11s	16s	22s	28s	33s	45s	56s	2min20s	4min40s	9min20s	18min	141
BASIC	7.9s	15s	23s	31s	39s	47s	1min	1min10s	3min10s	6min30s	13min	26min	198
LONG	17s	35s	52s	1min10s	1min20s	1min40s	2min20s	2min50s	7min10s	14min	29min	58min	438

• Without Audio recording, recording duration “MEDIUM”

GRADE \ PPS	25P	12.5P	8.33P	6.25P	5P	4.17P	3.13P	2.5P	1P	0.5P	0.25P	0.13P	NUMBER OF RECORDING FIELD
SUPER	1.7s	3.5s	5.2s	7s	8.8s	10s	14s	17s	44s	1min20s	2min50s	8min30s	44
HIGH	2.3s	4.6s	6.9s	9.2s	11s	13s	18s	23s	58s	1min50s	3min50s	7min40s	58
STD	3.7s	7.5s	11s	15s	18s	22s	30s	37s	1min30s	3min	6min10s	12min	94
BASIC	5.2s	10s	15s	21s	26s	31s	42s	52s	2min10s	4min20s	8min40s	17min	132
LONG	11s	23s	35s	46s	58s	1min10s	1min30s	1min50s	4min50s	9min40s	19min	38min	292

• Without Audio recording, recording duration “SHORT”

GRADE \ PPS	25P	12.5P	8.33P	6.25P	5P	4.17P	3.13P	2.5P	1P	0.5P	0.25P	0.13P	NUMBER OF RECORDING FIELD
SUPER	0.8s	1.7s	2.6s	3.5s	4.4s	5.2s	7s	8.8s	22s	44s	1min20s	2min50s	22
HIGH	1.1s	2.3s	3.4s	4.6s	5.8s	6.9s	9.2s	11s	29s	58s	1min50s	3min50s	29
STD	1.8s	3.7s	5.6s	7.5s	9.4s	11s	15s	18s	47s	1min30s	3min	6min10s	47
BASIC	2.6s	5.2s	7.9s	10s	13s	15s	21s	26s	1min	2min10s	4min20s	8min40s	66
LONG	5.8s	11s	17s	23s	29s	35s	46s	58s	2min20s	4min50s	9min40s	19min	146

• With Audio recording, recording duration “LONG”

GRADE \ PPS	25P	12.5P	8.33P	6.25P	5P	4.17P	3.13P	2.5P	1P	0.5P	0.25P	0.13P
SUPER	2.5s	5s	7.5s	10s	12s	14s	19s	22s	51s	1min20s	4min20s	8min40s
HIGH	3.3s	6.7s	9.7s	12s	16s	18s	24s	30s	1min	1min30s	5min40s	11min
STD	5.5s	10s	15s	20s	25s	29s	37s	45s	1min20s	2min	9min20s	18min
BASIC	7.6s	14s	21s	27s	33s	38s	49s	58s	1min40s	2min20s	13min	26min
LONG	15s	30s	42s	53s	1min	1min10s	1min20s	1min30s	2min30s	3min	29min	58min

• With Audio recording, recording duration “MEDIUM”

GRADE \ PPS	25P	12.5P	8.33P	6.25P	5P	4.17P	3.13P	2.5P	1P	0.5P	0.25P	0.13P
SUPER	1.6s	3.3s	5s	6.7s	8s	9.6s	12s	15s	34s	56s	2min50s	5min50s
HIGH	2.2s	4.4s	6.4s	8.6s	10s	12s	16s	20s	42s	1min	3min50s	7min40s
STD	3.6s	7.2s	10s	13s	16s	19s	24s	30s	58s	1min20s	6min10s	12min
BASIC	5.1s	9.9s	14s	18s	22s	25s	33s	39s	1min10s	1min30s	8min40s	17min
LONG	10s	20s	28s	35s	42s	48s	57s	1min	1min40s	2min	19min	38min

• With Audio recording, recording duration “SHORT”

GRADE \ PPS	25P	12.5P	8.33P	6.25P	5P	4.17P	3.13P	2.5P	1P	0.5P	0.25P	0.13P
SUPER	0.8s	1.6s	2.5s	3.3s	4s	4.8s	6.4s	7.6s	17s	28s	1min20s	2min50s
HIGH	1.1s	2.2s	3.2s	4.3s	5.4s	6.2s	8s	10s	21s	32s	1min50s	3min50s
STD	1.8s	3.6s	5.2s	6.8s	8.4s	9.8s	12s	15s	29s	42s	3min	6min10s
BASIC	2.5s	4.9s	7.2s	9.2s	11s	12s	16s	19s	35s	48s	4min20s	8min40s
LONG	5.1s	10s	14s	17s	21s	24s	28s	32s	50s	1min	9min40s	19min

ⓘ ▭ : Since audio recording cannot be made during recording interval of 0.25P and 0.13P, even when the recording with audio recording set to ON, the following recording time table is the same for when setting audio recording to OFF.

Trubleshooting

If problems with the unit persist even after you've followed the suggestions below, please disconnect the power cord and contact the retailer from whom you purchased the unit.

	Description of problem	Please consult the following	Page
INSTALLATION	The unit will not turn on.	• Is the power cord properly plugged in? • Is the LOCK indicator light on? • Is the TIMER button light on? • Is the MAIN switch on the rear set to "OFF" ?	- 6, 57-59 6 8
	Power is on, but the unit will not operate.	• Is the LOCK indicator light on? • Is the POWER button blinking? (The unit cannot be operated when the POWER button is flashing.) • It is possible that the safety features are in operation. Restart the unit by pressing the RESET button located at the back of the unit using a ballpoint pen or similar object.	6, 57-59 6 8, 57
	Images are not appearing on the monitor.	• Are the monitor and camera(s) connected correctly? • Is the unit receiving an input signal from the selected camera? Check this by setting the unit to SPLIT9.	18 27
	The quality of the monitor picture is poor.	• Is the connecting cord connected correctly? • Is the camera's focus adjusted correctly?	- -
RECORDING	The unit will not start recording.	• Is the "HDD REPEAT REC" set to "OFF" or "STANDBY"? • The unit begins recording only after the specified recording time. Was the unit stopped during the specified recording time? • Is the PRE ALARM REC indicator light on?	37 12-14 6
	The unit will not stop recording.	• Is the LOCK indicator light on? • During normal recording, alarm recording and emergency recording, press the REC/STOP button for more than 1 second. • Is timer recording in progress? To stop timer recording, press the TIMER button again for more than 1 second.	6, 57-59 14 34, 35
	The unit will not perform Repeat Recording.	• Is the "HDD REPEAT REC" set to "ON"?	37
	The unit will not perform Timer Recording.	• Are the date and current time set accurately? • Are the Recording Start-/End-times and the recording interval set correctly? • Is the HDD Repeat Recording setting set on REC•STANDBY?	11, 12 34-36 37
	The unit will not perform Alarm Recording.	• Is the unit in stand-by mode? • Are the peripheral switches, etc., connected correctly?	6 18
PLAYBACK	The unit will not perform playback.	• Is the LOCK indicator light on? • Has the image data been erased? • Is the correct playback device selected?	6, 57-59 42 15, 52
	The compact flash card will not perform playback.	• Is the media correctly inserted? • Is the correct playback device selected?	9 15, 52

	Description of problem	Please consult the following	Page
OTHERS	The unit will not perform the motion detection function.	• Is “MOTION DETECTION” selected in “SELECTION CAMERA NUMBER” in the <MOTION DETECTION SETTINGS> screen set to “ON” ? • Is the value in “MOTION THRESHOLD” of the <MOTION DETECTION SETTINGS> screen larger than the value set in “DETECTION MASK SETTING” ?	29, 30 30, 31
	The unit will not respond to PC control.	• Is the RS-232C setting set correctly ? • Are the unit and computer connected correctly ? • Is there a defect in the connecting cable ? • Is the proper connecting cable being used ?	41, 42 60 - 60
	There is a camera number with a blue screen during split screen display.	• The screens of camera number with no video signal input will be blue even when setting for operation.	27
	Button operation is not working.	• Is the POWER button flashing? (The unit cannot be operated when the POWER button is flashing?) • Is the LOCK indicator light on?	6 6, 57-59
	Cameras cannot be switched with the camera number buttons.	• Is the Menu screen being displayed? Camera number buttons cannot be used when the Menu screen is displayed.	10, 28

■ Warnings and their appropriate countermeasures

#1 Options in the CALL OUT options column:
- Selectable : CALL OUT output can be selected/de-selected on the menu.
- Fixed : a CALL OUT signal is emitted without prior selection of this function using the menu.
- None : no CALL OUT signal is emitted, but a warning indicator will appear on screen.

➲ CALL OUT signal output can be stopped by pressing the WARNING RESET button.

Warning	Status	Countermeasure	Canceling the warning	Code	CALL OUT output #1	page
HDD FULL	• HDD recording capacity is empty.	• When the warning is canceled, the unit will start over-writing the oldest data remaining in the hard drive. • Archive or copy data as necessary.	Press the WARNING RESET button.	WNG1100	Selectable	37, 40
COPY FULL RESTORE FULL	• Media recording capacity is empty.	• Replace with new media. • Replace media if necessary.	Press the WARNING RESET button.	WNG3100 WNG4100	None	9
REC REM	• The remaining HDD capacity has reached the value set in HDD REMAIN.	• Copy data as necessary.	Press the WARNING RESET button.	WNG1200	Selectable	40, 41
COPY SIZE REST SIZE	• Data exceeds the recording capacity of the Compact Flash when copying from HDD, or there is no copy data.	• Set the copy range again. • Replace the media.	Press the WARNING RESET button.	WNG3701 WNG4701	None	56
COPY MEDIA (RED) REST MEDIA (RED)	• Error has occurred in the Compact Flash Card.	• Check the Card. (Insert the media if there in none.)	Press the WARNING RESET button.	WNG3702 WNG4702	None	9, 56
COPY MEDIA (WAHITE) REST MEDIA (WAHITE)	• No Compact Flash Card has been inserted.	• Insert the Card.	Press the WARNING RESET button.	WNG3703 WNG4703	None	9
NON SIGNAL (The warning will indicate the number of the non-functioning camera.)	Video signal was lost for more than 5 seconds during recording.	• Check whether the unit and camera are properly connected, and that electricity is on. • Check whether the visual signl is being properly outputted. • Check to see if there is a camera set for operation with no video signal input.	Stop recording. Output video signals. Press the WARNING RESET button.	WNG5400	Fixed	18 27 12-14, 32,33
IMAGE ERROR	Video data that has been altered was played back.	——	Press the WARNING RESET button.	WNG5500	Fixed when setting is “ON”	37
SYSTEM PLAY SYS REC SYS COPY SYS REST SYS	System error has occurred.	• Reboot. • Check the HDD/media.	Press the WARNING RESET button.	WNG5100 WNG24□□#2 WNG14□□#2 WNG34□□#2 WNG44□□#2	Fixed	-
REC RW COPY RW REST RW	Error has occurred during reading/writing of data to HDD/media.	• Check the HDD/media.	Press the WARNING RESET button.	WNG13□□#2 WNG33□□#2 WNG43□□#2	None	-
DEVISE ERROR	Unable to recognize HDD	• Reboot.	Turn off the power	WNG62□□#2	Selectable	42
TEMP(WHITE)	Issued when in a high temperature environment within the tolerance level.	• Turn off the power and change the installation condition.	Press the WARNING RESET button. Lower the temperature.	WNG5200	Selectable	-
TEMP(RED)	Issued when in a high temperature environment.	• Check the installation condition.	Press the WARNING RESET button.	WNG5201	Selectable	-
FAN	The fan stopped.	• Turn off the power and stop usage. • Request for repair.	Press the WARNING RESET button. Rotate the fan.	WNG5300	Selectable	-

#2□□ 0 0 : MASTER
0 1 : CFC

■ Glossary

• I/O terminals
Terms used for referring to both input and output.

• RS-232C
Connection standard used for handling data between devices such as a PC, modem, etc. A standard when connecting a PC and modem. The upper limit for the communication speed of this standard is 115.2kbps and the maximum transfer distance is 15m. Since this standard only defines the roles and physical characteristics of the connector pins, there are various types of connectors such as 25-pin, D-sub, etc.

• Copy
Term used when copying part of data to an external storage media. The term “copy” in this manual refers strictly to the process of taking out only the data before and after failures from continuous video to a Compact Flash Card or video for analytical purposes.

• Compact Flash Card (CFC)
One of the standards for a compact memory card. The Compact Flash Card has such merits as strong durability and ease of handling.

• Hard disk drive (HDD)
Storage device using the same magnetic recording process as tapes and is used in PCs. An aluminum disk coated with magnetic materials is used on the surface as the storage medium and since there is no contact during recording/playback, there is no head wear. Data search is also quick since recording is performed in numbered sections called sectors.

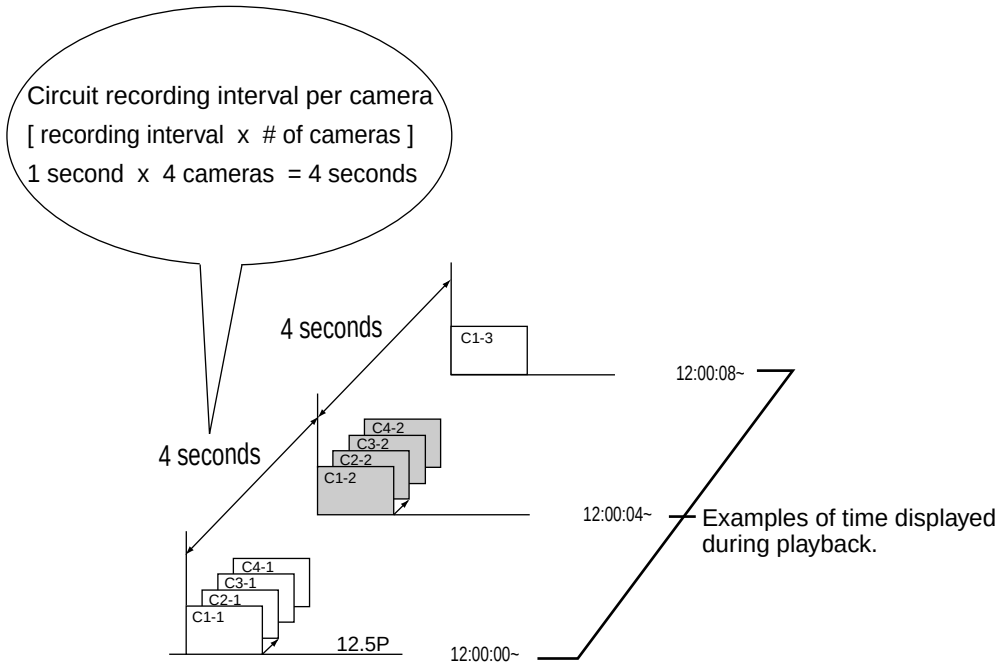
• Media
Term was originally referred to media that transmits information. Media mostly refers to hard disks, floppy disks, MO disks, magnetic tapes, and are commonly referred to as storage media. Media types are largely categorized by the recording method, such as optical disks, magnetic optical disks, magnetic disks, etc.

• Capacity
Term to indicate the amount of data that can be stored in a storage device such as memory, disk, etc., and unit is indicated in B (bytes).

• Restore
Term referred to when copying data that has been backed-up in a peripheral recording device, etc., to the built-in hard disk of the unit.

■ Relation of recording operation to the number of cameras and recording interval settings

The recording pattern of this unit is as illustrated in the diagram below. Image data input from all the connected cameras is recorded sequentially at a rate of [number of cameras x recording interval]. (25P recording interval during normal recording.) For example, when 4 cameras are recording at intervals of 1 second, the unit takes four seconds to receive one cycle of image data from the cameras. When this data is played back on a single-screen, the display is refreshed once every four seconds.



Specifications

Rated Power Supply:	AC 100-240V 50/60Hz		
Rated Input:	1.0 - 0.5A (100-240V)		
Color System:	PAL-type color system.		
Operating Temperature:	41°F-104°F (5°C to 40°C).		
Relative Humidity:	Max.80(%)		
Altitude:	Max.2000(m)		
Dimensions:	300(Width) x 350(Depth) x 88(Height)(mm).		
Weight:	5.0kg		
Recording System	Digital recording method using WAVELET compression.		
Sampling	13.5MHz		
Data Compression	WAVELET		
Compression Unit	Field		
Resolution	684 x 244		
Recording Device	80GB HDD		
Video Input:	9 Input BNC-Connector:	1.0 V(p-p), 75 ohms.	
Monitor Output:	S-Connector:	Y-Signal: 1.0 V(p-p), 75 ohms.	
		C-Signal: 0.286 V(p-p), 75 ohms.	
	BNC-Connector:	1.0 V(p-p), 75 ohms.	
Throughout Output:	9 Output BNC-Connector:	1.0 V(p-p), 75 ohms.	
Audio Input:	-8 dBs, 50 kohms.		
Audio Output:	-8 dBs, 1 kohms.		
Microphone Input:	-67 dBs, 600 ohms.		
Timer Program:	8programs-Daily start and stop time for one week x 3set.		
Memory Backup:	Lasts for more than 1 month.		

CONNECTORS

ALARM IN(1-9) Input:	Terminal for starting alarm recording.
CLOCK ADJ Input:	Terminal for adjusting clock.
REC Input:	Terminal for start recording.
EMERGENCY Input:	Terminal for start emergency recording.
GND:	Terminal for ground.
MODE OUT(1-4) Output:	Terminal for indication of recording selected mode.
DC 5V OUT Output:	Terminal for DC 5V OUT.
CALL OUT/CALL OUT GND:	Terminal for external warning device.

Rating:

MODE OUT(1-4)	Active:	"Low" Level.	Max. Drive current 7mA DC.
	Non active:	Open.	Max. Voltage +24V DC.
ALARM IN / CLOCK ADJ / REC/EMERGENCY	Active:	When terminals are short-circuited or "Low" Level voltage is applied.	
	Non active:	Open.	
CALL OUT / CALL OUT GND	Active:	ON.	Max. Drive current 7mA DC.
	Non active:	Open.	Max. Voltage +24V DC.

RS-232C — RS-232C (D-SUB 9pin) terminal for connection with personal computer.

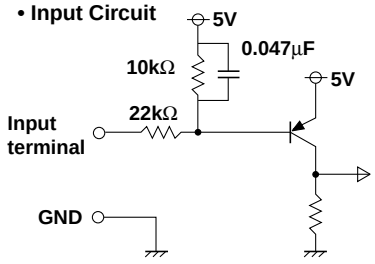
Accessories

AC power cord (for U.K / for the Continent)	2
Compact Flash cover (mounted on unit)	1

Compact Flash Card recording format — Original format (FSM1)

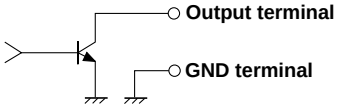
Weight and dimensions shown are approximate.
Design and specifications are subject to change without notice.

EMERGENCY/ALARM IN/REC/ CLOCK ADJ Input terminal
• Input Circuit



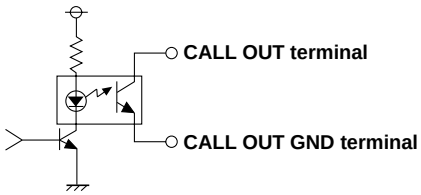
<Interface circuit inside the unit>

MODE OUT 1 - 4 Output terminal
• Output Circuit



<Interface circuit inside the unit>

CALL OUT output terminal
• Output Circuit



<Interface circuit inside the unit>